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TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1886.

No. 148.

GEORGE S. GRIER, APPELLANT,

vs.

JOHN F. WILT.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF DELAWARE.

FILED OCTOBER 12, 1886.

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1 Circuit Court of the United States for the District of Delaware.

UNITED STATES OF AMERICA, } ss:
District of Delaware, }

At a stated term of the circuit court of the United States of America for the district of Delaware, begun and held according to law, at the city of Wilmington, in said district, on the third Tuesday (being the 17th day) of October, A. D. 1882—present and presiding, the Honorable Edward G. Bradford, district judge; Henry H. McMullen, marshal; S. Rodmond Smith, clerk—among other, the following proceedings were had, to wit:

JOHN F. WILT
vs.
GEORGE S. GRIER. } In Equity.

Be it remembered that heretofore, to wit, on the 19th day of November, A. D. 1879, came the above-named complainant, by his solicitors, E. G. Bradford, Jr., Esq., and Worth Osgood, Esq., and filed his bill of complaint against the above-named defendant, as follows, to wit:

2 *Bill of Complaint.*

Circuit Court of the United States for the District of Delaware, in the 3rd Circuit. In Equity.

JOHN F. WILT, Complainant, *vs.* GEORGE S. GRIER, Defendant.

To the honorable the judges of the circuit court of the United States for the district of Delaware, in the 3rd circuit:

John F. Wilt, a citizen of the United States, residing at and doing business at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, brings this his bill of complaint against George S. Grier, a citizen of the United States, residing at and doing business at Milford, in the county of Kent and State of Delaware, in the — circuit; and thereupon your orator complains and says:

That heretofore, and before the 2nd day of April, 1877, Asa Quincy Reynolds, being then a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, was the

3 true, original, and first inventor or discoverer of a certain new and useful invention, to wit, a new and useful improvement in automatic fruit driers, and that the said invention or discovery was not known or used by others before his invention or discovery thereof, and was not, at the time of application for the letters patent therefor, in public use or on sale with the consent or allowance of the said Asa Quincy Reynolds as the inventor or discoverer thereof, contrary to the provisions of the statutes of the United States in such case made and provided.

That the said Asa Quincy Reynolds made application in writing to the Commissioner of Patents of the United States for the granting of letters patent of the United States for said invention, and paid into the Treasury of the United States the fees required by law, and

then and there also duly complied in all other respects with all the necessary conditions and requirements of the statutes of the United States in such case made and provided prior to the granting of the letters patent hereinafter mentioned.

That on the 1st day of May, 1877 letters patent of the United States, bearing date on that day, were issued to the said Asa Quincy Reynolds according to law, whereby there was granted to him, his heirs, executors, administrators, and assigns, for the term of seventeen years from the first day of May, 1877, the full and exclusive right and liberty of making, constructing, using, and vend-
4 ing to others to be used the invention or discovery aforesaid, a description whereof was given in the words of the said Asa Quincy Reynolds in the schedule annexed to the said letters patent and was made part of the same.

That the said letters patent were issued in the name of the United States of America, and were signed by the Secretary of the Interior, and were countersigned by the Commissioner of Patents, and were numbered 190,368, and were issued and delivered to the said Asa Quincy Reynolds, being first sealed with the seal of the Patent Office.

That thereupon, after the issue of the said letters patent aforesaid, the said Asa Quincy Reynolds and his assigns put the said invention into use.

And your orator prays that the said letters patent and the schedule annexed thereto as aforesaid may be deemed and taken as a part of this bill, and to the originals of said letters patent, or a duly authenticated copy thereof now in your orator's possession, and ready to be — in court, he craves leave to refer.

And your orator further shows that on the 11th day of June, 1877, by assignment in writing, duly signed and delivered and recorded in the U. S. Patent Office, at liber S 21, page 482, of the Transfers of Patents, the said Asa Quincy Reynolds, for valuable consideration, sold, assigned, transferred, and set over unto the
5 Automatic Fruit Evaporator Company, Limited, a corporation created by and organized and existing under the laws of the State of Pennsylvania, and having its principal place of business in the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, his entire right, title, and interest in and to the said invention and patent.

And your orator further shows that thereafter, on the 24th day of January, 1878, the said Automatic Fruit Evaporator Company, Limited, by assignment in writing duly signed, sealed, and delivered; and recorded in the U. S. Patent Office, at liber Q 22, page 43, of the Transfers of Patents, for valuable considerations, sold, assigned, transferred, and set over unto William W. Fenner, of the city of Philadelphia aforesaid, all its right, title, and interest in and to the said invention and in and to the patent aforesaid.

And your orator further shows that thereafter, on the 31st day of May, 1878, by assignment in writing duly signed and delivered and recorded in the U. S. Patent Office, at liber A 23, page 49, of the Transfers of Patents, the said William W. Fenner, for valuable con-

sideration, sold, assigned, transferred, and set over unto your orator, his heirs, executors, administrators, and assigns, all his, the said William W. Fenner's, right, title, and interest in and to the said invention and in and to the patent aforesaid, and that your orator is now the sole owner thereof.

6 And your orator, by virtue of said assignments, has become and is now entitled to recover all damages suffered by said former owners and each and all of them and all profits made by said defendant since the 1st day of May, 1877, by reason of the use of the said invention and the infringement of the said letters patent.

And your orator has, ever since the title to said invention and letters patent became vested in him as aforesaid, been, and now is, entitled to all the rights, interest, and privileges thereby secured unto him in and to the said invention and discovery in the said letters patent particularly set forth, and is now, and ever since the date thereof has been, entitled to the exclusive use of the said invention and improvement within and throughout the United States.

And your orator further shows unto your honors that he verily believes, and therefore charges the fact to be, that the said Asa Quincy Reynolds is the original and first inventor of the invention described and claimed in the hereinbefore-recited letters patent.

And your orator further shows unto your honors that the said invention and discovery so patented as aforesaid is of very great utility, and that the same has been extensively introduced into public use, and the public have generally acquiesced in your orator's exclusive right to the same, and your orator would, but for the

7 wrongful acts of the said defendant and others acting in concert with him, have made large gains, profits, and advantages from the manufacture, use, and sale of the said invention; and your orator would, but for the wrongful acts and doings of the said defendant and others acting in concert with him, now be enabled to use the said new and useful improvement in fruit driers, to which he (your orator) is entitled to the exclusive right as aforesaid, with profit and advantage, but that, by the said wrongful acts and doings, he is now prevented and hindered from so doing.

And your orator further shows unto your honors, upon information and belief, that the said defendant, George S. Grier, well knowing the premises and the rights secured unto your orator, and in order to deprive him of the profits, benefits, and advantages which might and otherwise would have accrued to him within the district of Delaware and elsewhere within the United States, and without the license and permission of your orator, has, for one year last past, unlawfully and wrongfully made, or caused to be made, sold, or caused to be sold, used, or caused to be used, the invention aforesaid in manufacturing and vending fruit driers combining trays which make up the walls of the drier, and appliances for elevating the lowermost tray ready for the insertion of a fresh one, or in manufacturing and vending fruit driers with appliances for raising and lowering the entire outer walls thereof, or in manufacturing and

8 vending fruit driers with appliances for raising and lowering the lowermost section of the outer walls thereof, or in

manufacturing and vending fruit driers wherein the outer walls are built up in sections by inserting new sections beneath those already in place after elevating the original lowermost section, or in manufacturing and vending machines involving these features, to wit: in combination with a fruit drier, the outer wall of which is made up of the frames of the several trays, as explained (in the said patent), a suspending device operating substantially as described (in the said patent) and supporting said drier from a point in or on the lowermost tray thereof for the objects named (in the said patent), each and all containing the said invention, discovery, and improvement (the exclusive right to which is secured to your orator, as hereinbefore set forth) and shown and explained in the letters patent aforesaid, and which unlawful making, use, and sale by the defendant as aforesaid is an infringement of your orator's exclusive rights and privileges; and that the said defendant has derived and received, and is still deriving and receiving, from such use and sale great gains and profits, but to what amount your orator is ignorant and cannot set forth; but your orator prays that the defendant may be required to make a disclosure of all such gains and profits.

And your orator, in like manner, avers that the defendant,
9 though requested to desist from such unlawful use, and to pay to your orator such gains and profits as actually made, refused so to do, by means whereof your orator is and has been greatly injured, and is now prevented from putting the said invention or discovery into successful operation, and is deprived and prevented from receiving the gains and profits to which he is lawfully entitled from the exclusive rights and privileges secured to him as aforesaid, and which he would have derived and acquired, and would now derive and acquire, but for the said wrongful acts of the said defendant.

And your orator prays that the defendant may be compelled, by a decree of this honorable court, to account for and pay over unto your orator all such gains and profits as have accrued or arisen to or been earned or received by the said defendant, and all such gains and profits as your orator would have received but for the said wrongful acts and doings of the said defendant, and all damages your orator has sustained thereby, and that this honorable court will assess the same, or cause them to be assessed under its direction, and will increase the same, in its discretion, as provided by law, and that the said defendant, and each of his associates, attorneys, solicitors, clerks, servants, and workmen, may be perpetually enjoined and restrained by the decree of the court from directly or indirectly making, or causing to be made, using, or causing to be used, vending to others to be used in any manner, or con-
10 tracting with others to use for their, or either of their, benefit, any fruit drier containing or embodying the said invention granted by the said letters patent as issued aforesaid and from infringing upon or violating the said letters patent in any way whatsoever, and that the said defendant may be decreed to pay the costs, charges, and disbursements of this suit, and that your orator may

have such other relief as the equity of the case may require and as to your honors may seem meet.

To the end, therefore, that the said defendant may, if he can, show why your orator should not have the relief prayed hereby, and may full, true, direct, and perfect answer make, according to the best of his, or his clerks', agents', or workmen's knowledge, remembrance, information, and belief, to the several matters hereinbefore averred and set forth as fully and particularly as if the same were herein again repeated, paragraph by paragraph, and be distinctly interrogated, and that he shall set forth and answer all said particulars, and also—

1st. Whether he has not sold, or caused to be sold, or used, or caused to be used, or contracted to sell or use, or made, or contracted to be made, fruit driers combining trays which make up the walls of the drier, and an appliance for elevating the lowermost tray, or

11 fruit driers with appliances for elevating and lowering the entire outer walls thereof, or fruit driers with appliances for raising and lowering the lowermost section of the outer walls thereof, or fruit driers wherein the outer walls are built up in sections by inserting new sections at the bottom, or machines involving these features, to wit:

In combination with a fruit drier, the outer wall of which is made up of the frames of the several trays, a suspending device supporting said drier from a point in or on the lowermost tray, substantially as shown and described in the aforesaid letters patent.

2nd. What number of fruit driers referred to in question one has he made or sold or used, or caused to be made, sold, or used, and what profits have been derived from such sale or use?

May it please your honors to grant to your orator a writ of *subpœna ad respondendum*, issuing out of and under the seal of this honorable court, directed to the defendant, commanding him to be and appear and make answer unto this bill of complaint, and to perform and abide by such order and decree herein as to this honorable court may seem required by the principles of equity and good conscience.

May it also please your honors to grant to your orator a provisionable or preliminary injunction, issuing out of and under the seal of this honorable court, enjoining and restraining the defendant, his

12 and each of his attorneys, solicitors, clerks, servants, and workmen and agents, to the same purport, tenor, and effect hereinbefore prayed for in regard to said perpetual injunction.

And your orator will ever pray, &c.

JOHN F. WILT.

E. G. BRADFORD, JR.,
WORTH OSGOOD,
Solicitors and of Counsel.

13 UNITED STATES OF AMERICA, }
Eastern District of Pennsylvania, } *ss:*

On this 10th day of November, 1879, before me came John F. Wilt, to me personally known, who, being by me duly sworn, did

depose and say that he is the complainant in the foregoing bill of complaint named, and that he has read the said bill subscribed by him and knows the contents thereof, and that the same is true of his own knowledge, except as to matters therein stated to be on information and belief, and as to these matters he believes it to be true.

JOHN F. WILT.

Sworn to and subscribed before me this 10th day of November, A. D. 1879.

[SEAL.]

AUBREY H. SMITH,
U. S. Commissioner.

14 Whereupon, the same day (November 19th, 1879), a subpœna issued, returnable the first Monday of January next, as follows:

UNITED STATES OF AMERICA, *District of Delaware*, } *ss:*

The President of the United States to George S. Grier, a citizen of the United States, residing at and doing business at Milford, in the county of Kent and State of Delaware, Greeting:

For certain causes offered before the honorable the judges of the circuit court of the United States for the district of Delaware, we command and strictly enjoin you that, laying aside all manner of business and notwithstanding any excuse whatever, you personally be and appear before the said court, at Wilmington, in said district, on the first Monday in January next, at 11 o'clock a. m., then and there to make full, true, direct, and perfect answer to a certain bill of complaint exhibited against you by John F. Wilt, a citizen of the United States, residing at and doing business at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, and further to do and receive what the said court in that behalf shall consider to be done; and this in nowise omit under penalty of five hundred dollars.

Witness the Honorable Morrison R. Waite, Chief Justice of
15 the Supreme Court of the United States of America, at Wilmington, the 19th day of November, in the year of our Lord one thousand eight hundred and seventy-nine, and of American Independence the one hundred and fourth.

Issued November 19th, 1879.

S. RODMOND SMITH,
Clerk U. S. Circuit Court for the Delaware District.

MEMORANDUM.—The above-named defendant is notified that unless he enters his appearance in the clerk's office of said court on or before the day to which the above writ is returnable the complaint will be taken against him as confessed and a decree taken accordingly.

[L. S.]

S. RODMOND SMITH,
Clerk U. S. Circuit Court, said District.

Return.

Subpœna returned.

I certify that on the 22nd day of November, 1879, at Milford, in my district, I personally served the within writ on the within-named George S. Grier (by showing to him the same with the seal of the court thereon and leaving with him a copy thereof).

January 5th, 1880.

So answers—

H. H. McMULLEN,
U. S. Marshal, Dist. of Del.

16 December 19th, 1879.—The defendant appears by his solicitor, George P. Fisher, Esq.

January 27th, 1880.—This day came the defendant, by his said solicitor, and filed his answer, as follows:

Answer of Defendant.

In the Circuit Court of the United States for the District of Delaware, in the 3rd Circuit. In Equity.

JOHN F. WILT, Complainant, *vs.* GEORGE S. GRIER, Defendant.

The answer of George S. Grier, defendant, to the bill of complaint of John F. Wilt, complainant.

This defendant, now and at all times hereafter saving and reserving unto himself all benefit and advantage of exception which can or may be had or taken to the many errors, uncertainties, and other imperfections in the said complainant's said bill of complaint contained, for answer thereunto, or unto so much and such parts thereof as this defendant is advised is or are material or necessary for him to make answer unto, this defendant, answering, saith:

17 1. That this defendant is a citizen of the United States, residing and doing business at Milford, in the county of Kent and State of Delaware, and believes it to be true that the said complainant, the said John F. Wilt, is a citizen of the United States, residing and doing business at the city of Philadelphia, in the county of Philadelphia, in the State of Pennsylvania, but does not know the same of his own knowledge.

2. And this defendant, further answering, saith that he believes it to be true that letters patent of the United States No. 190,368 were, on May first, 1877, issued and granted to Asa Quincy Reynolds, of Chicago, Illinois, for a supposed or alleged invention or improvement in automatic fruit driers, but whether said alleged or supposed invention was a new and useful invention or improvement, and whether the said Asa Quincy Reynolds was or was not the true, original, and first inventor or discoverer of said alleged improvement or invention, or whether said alleged invention or discovery was or was not known or used by others before the supposed invention or discovery thereof by the said Reynolds, or whether the said supposed invention or dis-

covery was, at the time of the application by said Reynolds for letters patent thereof, ever in public use or sale with the consent or allowance of said Reynolds, this affiant does not know; but this affiant verily believes that each and every of the features or elements
18 of the invention claimed in said letters patent, so far as this defendant is acquainted with the driers or evaporators sold as the Reynolds automatic fruit drier, are well known and familiar devices.

3. And this defendant, further answering, says that he does not know of his own knowledge whether said Reynolds made application in writing, as alleged in said complainant's said bill of complaint mentioned, to the Commissioner of Patents of the United States for the granting to him, the said Asa Quincy Reynolds, of letters patent for said supposed invention, or whether the said Reynolds paid into the Treasury of the United States the fees required by law and complied with all the necessary conditions and requirements of the statutes of the United Statas in such case made and provided prior to the granting of the letters patent in said complainant's said bill of complaint mentioned, but he believes that said application was so made, and that said fees were so paid and said conditions and requirements were complied with, as stated in said complainant's said bill of complaint; otherwise, he presumes that said letters patent would not have been granted.

4. And this defendant, further answering, says that he verily believes and admits that on the 1st day of May, 1877, letters patent of the United States, bearing date on that day, were issued in due form of law, purporting to grant to him, the said Asa Quincy Reynolds, his heirs, executors, administrators, and assigns, the exclusive
19 right for seventeen years to make, use, and vend the said alleged invention, the same being numbered 190,368, as set forth in said complainant's said bill of complaint.

5. And this defendant, further answering, says that if the said Asa Quincy Reynolds or his assigns ever put the alleged invention described in the claims and specifications embraced in said letters patent No. 190,368 into use or upon the market this defendant is not aware of the fact, and has no knowledge or belief that said alleged invention ever has been put into use or upon the market, but, on the contrary, this defendant verily believes and so avers that not one of the so-called Reynolds automatic fruit driers which this defendant has seen has been constructed according to the specifications and claims embraced in said letters patent No. 190,368.

6. And this defendant, further answering, says that he does not know of his own knowledge whether on the 11th day of June, 1877, by assignment made in due form of law and duly recorded, the said Asa Quincy Reynolds did or did not assign to the said The Automatic Fruit Evaporator Company his entire right, title, and interest in and to the said alleged invention and patent, as set forth in said complainant's said bill of complaint, or whether the said company ever was or is a limited corporation created by and organized and existing under the laws of Pennsylvania, except as he is
20 informed in said complainant's said bill of complaint; nor does he know, of his own knowledge, except as informed in

said bill of complaint, whether said alleged company did, on the 24th day of January, 1878, or at any other time, by assignment in writing made and recorded in due form of law, assign, transfer, and set over to William W. Fenner, of the city of Philadelphia, all its right, title, and interest in and to the said alleged invention and in the patent therefor, as set forth in said bill of complaint; nor does this defendant know, of his own knowledge, nor has he any information, except as informed in said bill of complaint, whether the said William W. Fenner, on the 31st day of May, 1878, or at any other time, did or did not assign, transfer, and set over, in due form of law, to the said John F. Wilt, the complainant, all the right, title, and interest of him, the said William W. Fenner, in and to the said alleged invention or in and to said letters patent.

7. And this defendant, further answering, says that he does not know, of his own knowledge, nor has he any knowledge, information, or belief, except as derived from said complainant's said bill of complaint, whether or not the said complainant is entitled to recover all damages suffered by said former owners and each and all or any of them, or all profits made by this defendant since the first day of May, 1877, by reason of the use of said alleged invention or the infringement of said letters patent, had this de-
21 fendant made any such profits by reason of the use of said alleged invention or had this defendant infringed said letters patent; but this defendant emphatically denies that he has ever made any profits whatsoever by the use of the said alleged invention or that he has ever used the said alleged invention or has ever infringed the said letters patent No. 190,368, as alleged in said bill of complaint.

8. And this defendant, further answering, says that he does not know, of his own knowledge, nor has he any knowledge, information, or belief, except as he is informed by said bill of complaint, whether or not said complainant has ever, since the title to the said alleged invention and letters patent became vested in him, *said complainant*, been, or now is, entitled to all the rights, interests, and privileges thereby secured unto him in and to the said alleged invention and discovery in said letters patent particularly set forth, or that said complainant now is or ever has been since the date thereof entitled to the exclusive use of the said alleged invention and improvement within and throughout the United States; but this defendant believes and admits that if the said alleged invention and discovery and the letters patent therefor have come to said complainant by assignment, in due form of law, set forth and mentioned in said bill of complaint, then said complainant is entitled to all the rights, interests, and privileges secured by said letters patent
22 No. 190,368 and to the exclusive use of said alleged invention and improvement within and throughout the United States.

9. And this defendant, further answering, says that he does not know of his own knowledge, nor has he any information, knowledge, or belief, except as derived from said bill of complaint, and from said letters patent, whether the said Asa Quincy Reynolds is and

was the first and original inventor of the alleged invention described and claimed in the said letters patent No. 190,368, but this defendant believes, and is willing to admit, that said Reynolds is entitled to be acknowledged, so far as this defendant is informed or believes, to have originated whatever inventions or improvements are embraced in the claims made and specified and set forth in his specifications and claims, to wit:

1. "In combination with a series of fruit-drying trays, located one above another, a second or supplementary series, smaller than the first, and adapted to operate as and for the purposes explained."

2. "The plate F, adapted to cover the flue formed by the lower series of trays, and to relieve and hold the upper series, the whole being arranged and combined substantially as set forth."

3. "In combination with a fruit-drying tray, a fan wheel operated by the ascending current of heated air, movable independently of said tray, and adapted to equalize the currents of air, in the
23 manner set forth."

4. "In combination with a fruit drier, the outer wall of which is made up of the frames of the several trays, as explained, a suspending device operating substantially as described, and supporting said drier from a point in or on the lowermost tray thereof, for the objects named."

5. "In combination with a fruit drier adapted to be elevated in the manner described, and suspended above a stove or furnace, a suspending device, substantially as shown, provided with a swivel connection, as and for the purposes set forth."

But this defendant believes and avers that the alleged invention or improvement embraced in said letters patent No. 190,368 is not useful, and he further avers that the said Reynolds automatic fruit driers, as placed on the market, are not constructed for use in accordance with the specifications and claims as set forth in said letters patent No. 190,368, but that all of said Reynolds driers, so called, that this defendant has ever seen are and have been constructed without embodying therein any suspending device, as set forth and claimed in said fourth claim of said Asa Quincy Reynolds in said letters patent No. 190,368, but embodying and combining with the trays of the drier a lifting device altogether and substantially different from said suspending device claimed in said fourth claim, and this defendant uttterly and emphatically denies that he has,
24 either individually or acting in concert with others, done any wrongful act whatsoever in derogation or infringement of the rights of said complainant, or that this defendant, either alone or in concert with another or others, has made any gains, profits, or advantages whatsoever from the manufacture, use, or sale of the said alleged invention, or that, but for the wrongful acts and doings of this defendant, either alone or in concert with others, the said complainant would be enabled to use with profit the said alleged invention, as in said bill of complaint mentioned and set forth, or that said complainant is, by the wrongful acts and doings of this defendant, prevented or hindered from the enjoyment of the exclusive

right of making, using, and vending said alleged improvement or invention embraced in said letters patent No. 190,368.

10. And this defendant, further answering, denies that he has ever manufactured, sold, or used, or caused to be made, sold, or used, the said alleged improvement or invention embraced in said letters patent No. 190,368; and he further and utterly denies that he has ever made, used, or sold, or caused to be made, used, or sold, any fruit drier whatever in any manner involving the features or claims embraced in or covered by the said letters patent No. 190,368, or has ever been engaged in manufacturing or vending or using machines involving, in combination with a fruit drier, the outer walls of which is made up of the frames of the several trays, as
25 explained in the said letters patent No. 190,368, a suspending device operating substantially as described in said letters patent No. 190,368, and supporting said drier from a point in or on the lowermost tray thereof for the object named in the said letters patent No. 190,368, or that he has ever in anywise infringed said complainant's rights and privileges under said letters patent No. 190,368, or that he has ever made any profits or gains by any such unlawful acts as are charged in said bill of complaint against him.

11. But this defendant, further answering, says that he has constructed, made, used, and sold, in strict conformity and accordance with the specifications and claims contained and set forth in his own letters patent, bearing date October 28, 1879, and being numbered 221,056, five machines for drying or evaporating fruit and no more, which said machines he sold as follows: Three to B. F. Arnold, near Harrington, Kent county and State of Delaware, for the aggregate sum of thirteen hundred dollars; one other to Silas T. Jenkins, near Milford, county and State aforesaid, for the sum of four hundred and fifty dollars, and one to Lyman Fox, of Cedar Creek Hundred, Sussex county and State aforesaid, for the sum of five hundred dollars; but this defendant avers that he has made no profits or gains whatever on said machines by reason of his having sold them at a very low price in order thereby the more readily to introduce
26 them into market, and by reason also of the costs and expenses necessarily incident to the procuring of his letters patent, in conformity to the specifications and claims of which said machines have been strictly constructed, and also by reason of the expenses necessarily incurred by him in his efforts to improve, perfect, [and] develop his invention.

12. And this defendant, further answering, says that each and every of the machines for drying fruit made, used, or sold by him as aforesaid were constructed strictly in accordance with the specifications, description, and claims set forth and embraced in letters patent duly and lawfully granted and issued to this defendant, and bearing date as of October 28, 1879, and numbered 221,056, and the schedule annexed thereto, which this defendant prays may be deemed and taken as a part of this his answer to said bill of complaint, and to the original of said letters patent No. 221,056, or a duly authenticated copy thereof now in the possession of this defendant ready to be in — court, he craves leave to refer, and which said claims and

specifications in no manner whatever infringed the claims or alleged invention embraced in said letters patent No. 190,368.

And this defendant avers that a machine constructed in strict accordance with the description, specifications, and claims contained in the letters patent granted to the said Asa Quincy Reynolds,
27 No. 190,368, and also another machine constructed in strict conformity with the description, specifications, and claims contained in this defendant's letters patent No. 221,056, are totally dissimilar; that this defendant has caused to be constructed since the filing of complainant's said bill of complaint a small model of a machine in strict accordance with the description, specifications, and claims contained in said letters patent No. 190,386, and also another small model made according to the description, specifications, and claims contained in his own letters patent, No. 221,056, which he is ready to exhibit, and prays leave to exhibit, to this honorable court at the trial of this cause, whereby it will be seen that not only the fruit-drying machines made, sold, and used by this defendant are entirely different from the machine described, specified, and claimed in said letters patent No. 190,368, but that the so-called Reynolds automatic fruit-drying machine as placed upon the market is also widely different in its features and elements from the machine described, specified, and claimed in said letters patent No. 190,368.

13. And this defendant denies all and all manner of combination, concert, or confederacy wherewith he is by said bill of complaint charged, without this, that there is any other matter, cause, or thing in said complainant's said bill of complaint contained material or necessary for this defendant to make answer unto, and not
28 herein and hereby well and sufficiently answered, confessed, traversed, and avoided or denied, is not true to the knowledge or belief of this defendant; all which matters and things this defendant is ready and willing to aver, maintain, and prove as this honorable court shall direct, and humbly prays to be hence dismissed with his reasonable costs and charges in this behalf most wrongfully sustained.

GEO. S. GRIER.

Sworn to and subscribed before me the twenty-sixth day of January, 1880.

[L. S.] JOHN A. NICHOLSON,
U. S. Commissioner.

29 FEBRUARY 6TH, 1880.

This day came the complainant, by his solicitors, and filed his replication as follows:

Replication.

In the Circuit Court of the United States for the District of Delaware, in the 3rd Circuit. In Equity.

JOHN F. WILT, Complainant, *vs.* GEORGE S. GRIER, Defendant.

The replication of the complainant to the answer of the respondent.

The repliant, saving and reserving unto himself now and at all times hereafter all and all manner of advantage of exception to the manifold insufficiencies of the said answer, for replication thereunto says that he will aver and prove his said bill to be true, certain, and sufficient in the law to be answered unto; and that the said answer of the defendant is uncertain, untrue, and insufficient to be replied unto by the repliant without this, that any other matter or thing whatsoever in the said answer contained material or effectual in the law to be replied unto, confessed or avoided, traversed or denied, is true; all of which matters and things the repliant is and will
30 be ready to aver and prove as this honorable court shall direct, and humbly prays as in and by his said bill he has already prayed.

Dated Feb. 6th, 1880.

EDWARD G. BRADFORD, JR.,
Sol'r for Complainant.

Hearing.

This cause was thence continued from term to term to the October term of this court, A. D. 1880, when, to wit, November 16, 1880, came the parties, by their counsel; and this cause came on to be heard upon the pleadings and proofs; and, the hearing not being concluded, the same was adjourned until to-morrow morning.

Hearing Concluded.

NOVEMBER 17TH, 1880.

This day came the parties, by their counsel, and the hearing of this cause was resumed, and, being concluded, the court held the same under advisement.

And on said hearing the following testimony was read in evidence, to wit:

Complainant's Testimony.

31 U. S. Circuit Court, District of Delaware. In Equity.

JOHN F. WILT *vs.* GEORGE S. GRIER.

Testimony and proofs on behalf of the complainant in the above-entitled action, taken pursuant to notice before Frank W. Hanaford, notary public, by stipulation of parties, at room No. 81, in the Astor House, in the city of New York, under the 67th rule in equity, and its amendments.

NEW YORK, *March 18th*, 1880—11 o'clock a. m.

Present: Worth Osgood, counsel for compl't; George P. Fisher, sol'r for def't.

Complainant's counsel produces assignment of patent No. 190,368,

A. Q. Reynolds to The Automatic Fruit Evaporator Company, &c., and the same is marked for identification Exhibit Assignment 1, F. W. H., N. P.

Also assignment of patent 190,368, The Automatic Fruit Evaporator Company, &c., to William W. Fenner, trustee, and the same is marked Exhibit Assignment 2, F. W. H., N. P.

Also assignment of patent 190,368, William W. Fenner, &c., trustee, to John F. Wilt, and the same is marked for identification Exhibit Assignment 3, F. W. H., N. P.

32 Also duly certified copy of abstract of title to letters patent 190,368, and the same is marked Exhibit "Abstract," F. W. H., N. P.

ARTHUR M. PIERCE, a witness of lawful age produced on behalf of the complainant, having been duly sworn to testify the truth, the whole truth, and nothing but the truth touching the matter of controversy herein, and being examined by WORTH OSGOOD, Esq., of counsel for complainant, testifies as follows:

1 Q. What is your name, age, residence, and occupation?

A. My name is Arthur M. Pierce; residence, Brooklyn, N. Y., No. 1 Middagh street; age, 30 years; occupation, attorney-at-law and solicitor of patents and mechanical expert.

2 Q. What experience have you had in relation to mechanical constructions and patents for inventions?

A. I have been engaged during the past nine years with Mr. John H. Irwin, at Morton, Delaware county, Pennsylvania. While there I have assisted in various experiments in his machine shop and laboratory. I have also been engaged in setting up and running machinery. I have also had occasion to examine a great many patents and been engaged in soliciting patents.

(Counsel for complainant offers in evidence a duly certified copy of U. S. letters patent No. 190,368, granted to Asa Q. Reynolds May 1st, 1877, for "Improvements in Automatic Fruit Driers," and the same is marked Complainant's Exhibit "A." F. W. H., N. P.)

33 3 Q. I hand you Complainant's Exhibit "A," and ask whether or not you have examined the same, and whether or not you understand the construction and operation of the machine shown and described therein and the invention set forth therein?

A. I have frequently and carefully examined the letters patent now shown me, granted to Asa Q. Reynolds, dated May 1st, 1877, and numbered 190,368, for improvements in automatic fruit driers, and I thoroughly understand the invention and the claims set forth therein.

4 Q. Please explain your understanding of the construction and operation of the fruit drier shown in Complainant's Exhibit "A," and also explain your understanding of the invention shown and described and claimed in the same exhibit, particularly so far as relates to claim 4.

A. In the fruit drier shown in said exhibit I find a stove or heating drum over which is located the drier, consisting of a number of

trays so constructed as that any one will receive a similar tray above and also fit over a similar one below, the several trays being of one size, and each one when placed in position forming a complete section of the heated flue, and in such a manner as to be built of any desired height which may be found necessary. This column of trays, consisting of one or more, is supported by a mechanical appliance in such a manner that the lowermost tray may be raised up for the purpose of inserting a fresh one thereunder. Thus the heat-flue is built by the successive addition of trays, as described. The heat is thus compelled to pass up through all the trays before escaping.

The substance of the patent may be summed up as set forth in the 4th claim thereof, in which is claimed, *in combination with* a fruit drier, the outer wall of which is made up of the frames of sev-
34 eral trays supported by a mechanical appliance applied to the lowermost tray thereof.

5 Q. Explain what you understand to be the advantage in thus successively building up the walls of the flue by the number of trays.

A. As I understand it, the advantage of this manner of constructing the walls of the flue by means of successive addition- of trays is that each tray, no matter what the number may be forming the flue, serves to form an additional section of the flue and confined all the heat to said passage or flue, the trays being added at the bottom, and thus the fresh fruit placed therein first coming in contact with the heat, and by this mode of forming the walls of the flue it may be built to any desired hight.

6 Q. In a drier constructed as you have explained is there any necessity for any walls or exterior protecting surfaces aside from those formed by the frames of the trays?

A. There is no exterior wall required, the heat being confined entirely by the frames of the trays.

7 Q. What manner of mechanical appliance do you understand to be contemplated by the 4th claim of complainant's patent, Exhibit "A," for the purpose of supporting the lowermost tray, as you have explained in your answer to Q. 4?

A. Any mechanical appliance by which the lowermost of a series of trays may be raised up sufficiently to enable the introduction of another tray below.

Counsel for complainant offers in evidence duly certified copy of U. S. letters patent No. 221,056 to George S. Grier, October 28th, 1879, for improvement in fruit driers, and referred to in defendant's answer to the bill of complaint herein, and the same is marked Complainant's Exhibit "B," F. W. H., N. P.

35 8 Q. I now hand you Complainant's Exhibit "B" and ask whether or not you understand the construction and operation of a fruit drier constructed and arranged as shown and described therein, and whether or not, in your opinion, a fruit drier constructed in accordance therewith does involve the invention you have already explained to be in accordance with your understand-

ing of that shown and described and claimed in complainant's patent, Exhibit "A?"

(Objected to by defendant on the ground that the answer to the question would be to decide the point involved in this controversy, and which should be decided by the court or jury.)

A. I do understand the construction and operation of a fruit drier as shown and described in Complainant's Exhibit B, and, in my opinion, it involves the same construction and operation as the fruit drier I have already described and explained, as set forth in Complainant's Exhibit A.

9 Q. Explain your understanding of the manner in which the stack of trays may be built up in a fruit drier constructed in accordance with the specification and drawing of Complainant's Exhibit B.

A. According to my understanding of the specification and drawings shown in Complainant's Exhibit B, the stack of trays built by placing a tray upon the drier and raising said tray after remaining a sufficient length of time thereon to admit of the introduction of another tray thereunder, and so adding as many trays as desired.

Counsel for complainant offers in evidence a model of a fruit drier, and the same is marked Complainant's Exhibit "C," F. W. H., N. P.

36 10 Q. I now hand you Complainant's Exhibit C and ask whether or not you have examined the same and whether or not the drier therein shown operates, in your opinion, upon the same principles and involves the same inventions as you have already explained to be in accordance with your understanding of claim 4 in Complainant's Exhibit A?

A. I have examined the model now shown me—Complainant's Exhibit C—and according to my understanding it does operate in the manner claimed and described in claim 4 of Complainant's Exhibit A.

11 Q. Explain how the stack of trays is built up in a drier supposed to be represented by the model, Complainant's Exhibit C.

A. The first tray is placed over the heater, and when it is desired to add another thereto the first tray is raised up by the appliance shown in said model sufficiently to admit the introduction of another tray thereunder. The frame of the raising appliance is allowed to fall, when the lowermost tray may be again raised and the operation before described repeated.

12 Q. Now, in accordance with your expressed understanding of the invention set forth or summed up in the 4th claim of complainant's patent, Exhibit A, what manner of mechanical appliance is necessary in order to elevate the lowermost tray of the series, according to said claim?

A. According to my understanding any mechanical appliance is contemplated thereby which will raise the lowermost of a series or column of trays and hold the same in that position until another tray is introduced thereunder.

13 Q. Do you or do you not find such a mechanical ap-
37 pliance as referred to in your last answer in Complainant's Exhibit B or Complainant's Exhibit C, or both?

Objected to on the ground that the answer to the question would be a decision of a question to be determined by the court or jury.

A. I find such mechanical appliance as is referred to in each of said exhibits.

And, being cross-examined by defendant's counsel, he testified as follows:

14 X Q. What has been your education and experience as a mechanical expert? How long have you been an attorney-at-law and a solicitor of patents and for whom have you ever obtained letters patent?

A. My education in mechanics has been of a practical nature, I having been engaged, as before stated, during the past nine years in making various experiments at Morton, Pa., and in setting up and running machinery. I have been an attorney-at-law a little over five years, having graduated at Harvard University Law School in 1875. I have been engaged in soliciting patents for a little less than two months; consequently I have not as yet completely obtained any letters patent. During the past nine years I have had occasion to examine a great many letters patent and to thoroughly understand the same.

15 X Q. For whom have you acted as solicitor of patents during the two months in which you say you have been engaged in that business, and what experience have you had in the Patent Office as solicitor, clerk, or otherwise?

38 The latter part of question relating to employment in Patent Office objected to as immaterial and as not proper cross-examination.

A. I have not acted directly for myself in soliciting patents, but have been engaged in drawing specifications, &c., for others during that period; consequently my name does not appear upon the records of the Patent Office as an attorney. I have had no experience as a clerk in the Patent Office.

16 X Q. For what solicitor of patents have you prepared specifications or drawings?

A. I have prepared specifications for Mr. Worth Osgood, but have had no experience as a draughtsman.

17 X Q. How long have you been in the employ of Mr. Osgood, and are you now employed in his office?

A. I have been in his office about two months, employed by him, and doing business for myself at the same time.

18 X Q. Have you ever made the science of mechanics a study?

A. I have to a certain extent. While engaged experimenting, as before stated, I have read various scientific works and examined other works pertaining to the subject of the experiments. I have also had a practical experience, as before stated.

19 X Q. Please state what works you have read or studied on the subject of mechanics, and, if you please, enumerate what are commonly known as the mechanical powers.

A. My reading has mostly been confined to light, heat, and electricity. I have read portions of Ganot's Physics, Tyndall's Heat Considered as a Mode of Motion, various lectures and parts of lectures of Tyndall and others, articles in cyclopedias pertaining to steam, printing-presses, &c. What are known as the mechan-
39 ical powers are the lever, the pulley, and, I think, the cord and weight. Not having had occasion to look for anything of that kind lately, they have escaped my memory.

20 X Q. What sort of a laboratory had Mr. Irwin?

A. It was for experimenting in electricity.

21 X Q. What was the character of the machines made at his machine-shop?

A. Lanterns of various kinds, oil-stoves, and steam-injectors.

22 X Q. Will you please state now, without referring to the Complainant's Exhibit A, what the 4th claim thereof is in letters patent No. 190,368?

A. In a fruit drier of the character herein described, the outer walls of which are formed by the sides of a series of trays, the lowermost tray of said series supported by a suspending device, the whole arranged and adapted to operate in the manner set forth and described.

23 X Q. When did you first examine these letters patent No. 190,368?

A. I think about a month ago.

24 X Q. Have you had any personal experience in drying fruit with these patented fruit driers?

A. I have had no personal experience, but have examined a great many patents and drawings of fruit driers.

25 X Q. Please name those you have examined.

A. I cannot give the names of the patentees, but among the inventions are revolving ovens, in which the trays are suspended after the manner of the well-known revolving ovens for baking; also fruit driers in which the trays were introduced into a heated room, the heat being deflected thereon; also fruit driers in which the fruit was strung upon strings and hung upon a frame in a heated apart-
ment, and various other patents pertaining to the art.

40 26 X Q. Do you know anything of the Hoagland drier, the Zimmerman drier, the Hope drier, the Corsa drier, the Alden drier, the Williams drier?

Objected to on the ground that it introduces matter not warranted by the pleadings and is not proper cross-examination.

A. I do not know them by the names enumerated.

27 X Q. Do you understand Mr. Reynolds, in his application for letters patent No. 190,368, to claim as his invention the making or constructing of the outer wall of a fruit drier from and out of the frames of the trays?

A. I understand him as claiming the construction of a fruit drier

in which the wall is formed by the outer frames of the trays, in combination with a mechanical appliance for building this wall by the introduction of the trays from the bottom of the wall or flue.

28 X Q. Please look at the drawing in Complainant's Exhibit A, sheets 1, 2, and 3, and describe, in your own language, the drying machine as shown by those drawings.

A. I find here in figure 1 of said sheet 1 a fruit drier, consisting of a series of trays, one fitting over the other, each of said trays forming a completed section of the wall of said drier, the whole suspended or supported by the lowermost of the series of trays over the stove or heater.

29 X Q. Is that all you find there?

A. I find an appliance here shown for the purpose of supporting and raising or lowing the lowermost of said series of trays, thereby elevating or lowering the whole column.

30 X Q. What is that appliance? Describe it.

A. It consists of a crane, bearing at the base a drum, at-
41 tached to which drum is a handle or crank, said drum bearing also a ratchet-wheel, the ratchet-wheel being so placed that a pawl on the upright post of said crane may work therein. The horizontal arm of the crane extends over the top of the drier and bears a pulley at its outer and inner ends. Passing from the drum up through the pulleys in the horizontal arm of the crane is a chain or cord. Attached to the end of said chain or cord I find a yoke about the width of the column of trays. Attached to the ends of this yoke and suspended therefrom are chains or cords, bearing at their lower extremities hooks for the purpose of engaging the handles upon the lowermost tray of the series of trays. As I understand the drawing, the column of trays is raised or lowered by the use of the chain or cord before described.

31 X Q. You have been asked to explain "what you understand to be the advantage in thus successively building up the walls of the flue by the number of trays." Now I will ask you whether you regard the application of A. Q. Reynolds for letters patent No. 190,368 to claim the exclusive right to construct a drier by building its walls with the frames of the trays?

A. I understand him to claim the exclusive right to build a drier in which the walls of the heated flue are formed by the edges of the trays, in combination with a mechanical appliance for raising the lowermost of said trays for the purpose of inserting others thereunder, thereby building said wall from its bottom and supporting the whole by the bottom tray thereof.

32 X Q. Then you understand said Reynolds to claim a combination of two features in a drying machine, to wit: The combination of a suspending device by which the trays are held above the heater with a machine the outer walls of which are made up of the frames of the trays, and that he does not claim either of these features separately?

42 A. I understand that Mr. Reynolds claims, in a fruit drier, the supporting appliance for the purpose of raising and supporting a series of trays by the lowermost tray, the outer walls of

said trays forming the completed heat flue, the whole being built up by the introduction of said trays from the bottom of said heated flue.

33 X Q. You say, Mr. Pierce, that you understand the construction and operation of Grier's fruit drier, as shown and described in Complainant's Exhibit B, and that it involves the same construction and operation as the Reynolds fruit drier. Suppose that Grier's fruit drier had no hoisting apparatus by which to lift the series of trays from the bottom and that they had to be elevated by handles applied to the sides or corners of the trays, would you regard that as involving the same construction and operation as that involved in the Reynolds drier?

A. I should not regard it so.

34 X Q. Then suppose the Grier drier should have its trays elevated and its outer walls heightened by means of a screw operating in the centre, by steam or other power, would you then consider that it involved the same construction and operation as the Reynolds fruit drier?

A. If the outer walls of the heated columns were formed by the edges of successive trays added to said column from the bottom thereof, the trays being raised to permit the introduction of each successive tray thereunder, and the whole supported by the means of a screw, it would be the same thing.

35 X Q. I understand you to say that you would regard any machine for drying fruit whose outer walls are composed of the frames of a series of trays, which series of trays is to be built up by lifting the same from the bottom, an infringement of the Reynolds patent No. 190,368?

43 A. I should regard any machine for drying fruit in which the outer walls of the flue are composed of the edges of successive trays introduced at the bottom of said flue, the lowermost tray thereof being raised and supported by any mechanical appliance whatever, for the purpose of the introduction of the successive trays, the whole being supported by the lowermost of said trays, an infringement of the Reynolds patent No. 190,368.

36 X Q. Now, I ask you if you find about the model, Complainant's Exhibit C, any suspending device in combination with a drier whose outer walls are composed of the frames of the trays?

A. In the model marked Complainant's Exhibit C I find a series of trays, the edges of which form the outer wall of the heated flue, together and in combination with a mechanical device suspended so as to hold the lowermost tray, and adapted to raise the same for the purpose of the introduction of successive trays to form the walls of said heated column.

37 X Q. Please explain what that device is.

A. The device in said model consists of a frame-work fitting around and under the lowermost tray, suspended at its corners by means of chains running over pulleys upon the two sides of the outer frame-work of the drier, the ends of said chains being attached to arms on either side thereof, the opposite ends of said arms being connected by chains with a shaft bearing on its end a ratchet wheel

engaged by a pawl, and being operated by a crank thereon, the whole arranged in such a manner as to raise and support the lowermost of a series of trays when it is desired to introduce another one therein.

38 X Q. Suppose that you were going to build a drier from the description, drawings, and specifications set forth in Complainant's Exhibit A, would the result of your labor be a *fac-simile* of that model (indicating Complainant's Exhibit C)?

44 A. According to the description, drawings, and specifications of the machine set forth and described in Complainant's Exhibit A, I should build a fruit drier in which the outer walls of the heated column should be composed of the edges of a series of trays, each tray forming a completed section of said column, with a mechanical compliance constructed so as to raise the lowermost tray of said series and support the same for the introduction of another tray thereunder.

39 X Q. Would not that mechanical appliance consist of a crane much higher than your series of trays or heated flue would be, and would that crane not have attached thereto at the bottom a crank and drum, a cord or chain running from said drum up said crane to the top thereof, and thence along the arm of said crane over pulleys, and would you not attach said chain or cord to arms which themselves would be attached by other cords and hooks to the lowermost try, so that your trays would be hoisted by the turning of the crank attached to the bottom of the crane?

A. In constructing a fruit drier from the specification and claims of Complainant's Exhibit A I should construct it of a series of trays, the edges of the same, when placed upon each other, forming the outer wall of the heated column, the whole arranged to be raised and supported by a mechanical device, for the purpose of introducing other trays underneath said column.

40 X Q. Would not that mechanical device, according to the very language of the 4th claim of Complainant's Exhibit A, consist of a suspending device such as the crane exhibited in the drawing of said Exhibit A?

A. From the language of said claim and the description set forth in said letters patent (Complainant's Exhibit A) I should use
45 any mechanical appliance adapted for the purpose of supporting said series of trays and introducing others thereunder, and from the wording of the specification I should not be confined to the crane, it being there shown as one manner in which the desired result can be obtained.

41 X Q. Would not that device necessarily have to be some suspending device?

A. It would not necessarily, although the model Complainant's Exhibit C does show a suspending device; but I should feel at liberty to use any mechanical appliance for the purpose of raising, supporting, and introducing the successive trays, the edges of which form the outer wall of said fruit-drying flue.

42 X Q. Could you not build a drier according to the description, specifications, claims, and drawings of Complainant's Exhibit "A"

(the Reynolds drier) without the frame or platform, standards, levers, and rod, as exhibited in Complainant's Exhibit C, and would not a drier built without these be in perfect accordance with the specification and claims of said Complainant's Exhibit A?

A. If I should build a drier in which the outer walls of the heated column are formed by the edges of the frames of the trays of which it is composed, the whole being supported at the bottom of said column by a mechanical device adapted to raise said column by the lowermost tray thereof for the purpose of adding other trays thereto, I should feel at liberty, from the specifications, &c., to use any means for raising said column and inserting the trays thereunder which would accomplish said object, whether I used the various chains, arms, levers, &c., as enumerated, or not.

43 X Q. What would a suspending device, as named in the 4th claim of Complainant's Exhibit A, illustrated by the drawings of said exhibit, suggest to your mind when setting about constructing a drier according to said exhibit; would they not suggest the construction simply of a series of trays, the frames of which should compose the outer wall of the drier, and a crane, with a crank, cord, and pulleys thereunto attached, for hoisting the trays?

46

A. The suggestion of the crane, cord, and pulley would not necessarily present itself from the 4th claim of said exhibit, it being mentioned in the specification, &c., as one of the simple forms which might be used for the purpose of raising the column of trays in order to insert others thereunder; and being merely as a suggestion, I should use any form of mechanical appliance which I should consider efficient for the purpose specified.

44 X Q. Do I understand you to say that a suspending device, such as the swinging crane mentioned in Complainant's Exhibit A, is not required in order to construct a drier in accordance with Reynolds' claim 4?

A. A swinging crane is not required; it may be any form of device which will accomplish the object of raising and supporting a column of trays by means of the lowermost tray thereof, for the purpose of building said column from its bottom and sustaining the same at that point.

And being further examined by complainant's counsel, he testified as follows:

45 R. D. Q. In Complainant's Exhibit A is the point of application of the power used to elevate the series of trays above or below the lowermost tray of the series?

A. It is about on a level of the bottom of the lowermost tray thereof.

47 46 R. D. Q. In a mechanical point of view would it make any difference whether it was above or below; and, if so, what?

A. It would make no difference whatever.

And being further cross-examined by defendant's counsel, he testified as follows:

47 R. D. Q. Is the device for lifting the trays, as described in Grier's specification and claims, confined to the lifting of the bottom tray alone, or by it can any one or more of the series of a dozen or more trays be lifted up from the rest, so as to have room for the insertion of another tray at any point in the column of trays?

A. By the device shown and described in Grier's patent, the trays may be lifted either from the lowermost one or any there above may be lifted independent of those below.

And being further examined by complainant's counsel, he testified as follows:

48 R. D. Q. Can the same thing be accomplished by any one of the several elevating contrivances shown in Complainant's Exhibit A?

A. The same thing can be done by each of the contrivances shown in Complainant's Exhibit A.

ARTHUR M. PIERCE.

Subscribed and sworn to before me this 18th day of March, A. D. 1880.

FRANK W. HANAFORD,
Notary Public for Kings Co., N. Y.

(With certificate filed in New York county.)

48 EDWARD MCFARLAND, a witness of lawful age, produced on behalf of the complainant, being duly sworn to testify the truth, the whole truth, and nothing but the truth touching the matter of controversy herein, and being examined by WORTH OSGOOD, Esq., of counsel for complainant, testified as follows:

1 Q. What is your name, age, residence, and occupation.?

A. Edward McFarland; age, 48; occupation, manufacturer of heaters and ranges; I reside at No. 1820 Green street, Philadelphia, Pa.

2 Q. Have you had any connection with the manufacture of fruit driers?

A. I have—in making heaters for fruit driers.

3 Q. Do you understand the construction and operation of fruit driers made substantially in accordance with Complainant's Exhibit A and Complainant's Exhibit C?

A. I do; I understood the manufacture and operating of them.

4 Q. What do you regard as the chief feature of superiority in fruit driers made in accordance with said exhibits over former constructions?

A. In the simplicity of its construction, ease of management, and the series of trays making a stack or tube for the evaporation of fruit or vegetables without an outside frame, as it is more cheaply made.

5 Q. Are these points of superiority generally recognized by the users of the machines, so far as your knowledge extends?

A. Persons having used them have given testimonials in their

favor, on account of ease of working the machine, the simple mechanism required to hoist the apparatus, and the amount of work it will do in twenty-four hours or any given time.

49 6 Q. Have you any copies of such testimonials, and will you produce them?

Objected to, also the production of any testimonials, on the ground that the same is irrelevant.

A. I have a circular containing testimonials from parties in the fruit sections of Delaware and New York, Georgia, &c. (Produces same.)

Counsel for complainant offers in evidence the circular referred to and produced by the witness, and the same is marked Compl't's Ex. D. F. W. H., N. P.

7 Q. Do you know who owns the U. S. letters patent No. 190,368?

A. I do know—John F. Wilt, of Philadelphia, Pa.

8 Q. Do you know whether or not Mr. Wilt has manufactured any fruit driers under this patent, No. 190,368; and, if so, about how many has he manufactured?

A. I do know that he has manufactured a number of them; I should judge about 25 or 30, but cannot tell exactly.

And being cross-examined by defendant's counsel he testified as follows:

9 X Q. Have you ever seen any fruit driers of Mr. Wilt's manufacture that were constructed with a suspending device, such as is described in his specification, drawings, and model on file in the Patent Office at Washington, and as set forth in Complainant's Exhibit A?

A. I have, in principle, but not in the exact form of the drawing.

50 10 X Q. Do the frames of the trays in the machines manufactured by Mr. Wilt compose the outer wall of the drier as constructed by him?

A. They do.

11 X Q. Do they contain any suspending device for elevating the trays above the heater, or have they any crane, with crank, driving cord, and pulleys thereunto attached, or are they operated by means of crank, windlass, chain, pulleys, and levers?

A. They are operated by a lever and pulleys, with crank attached to the shaft. When we first made them we made them with a crank, but we never used any.

12 X Q. How long has Mr. Wilt been manufacturing them in accordance with Complainant's Exhibit C?

A. Since the summer of 1877.

[13 X] Q. How long has he been making them with double trays in each section?

Objected to on the ground that it is not proper cross-examination, and embraces a matter not involved in this issue.

A. This model, Complainant's Exhibit C, here was made in 1877.

The first year we made them with double sections; but we did not make any large ones in that way with double sections. We found it cheaper to make them in one piece.

EDWARD McFARLAND.

Subscribed and sworn to before me this 18th day of March, A. D. 1880.

FRANK W. HANAFORD,
Notary Public for Kings County, N. Y.

(With certificate filed in New York county.)

51 It is stipulated by counsel that the Complainant's Exhibits A, B, and C shall remain in the custody of complainant's counsel, the same to be produced at the taking of testimony by defendant, and that the said Exhibits A and B are the same, with the exception of the certificate, as the printed copies of letters patent 190,368 and 221,056, now in possession of defendant's sol'r.

WORTH OSGOOD,
Of Counsel for Resp'd'ts.
GEO. P. FISHER,
For G. S. Grier.

52 *Complainant's Exhibits.*

COMPLAINANT'S EXHIBIT A. F. W. H., N. P.

(2–175.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of the letters patent granted Asa Quincy Reynolds May 1st, 1877, No. 190,368, for imp't in automatic fruit driers.

In testimony whereof I, W. H. Doolittle, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this fourteenth day of February, in the year of our Lord one thousand eight hundred and eighty, and of the Independence of the United States the one hundred and fourth.

[L. S.] W. H. DOOLITTLE,
Acting Commissioner.

53 No. 190,368.

THE UNITED STATES OF AMERICA.

Picture.

To all to whom these presents shall come:

Whereas Asa Quincy Reynolds, of Chicago, Illinois, has presented to the Commissioner of Patents a petition praying for the grant of letters patent for an alleged new and useful improvement in automatic fruit driers, a description of which invention is contained in the

specification, of which a copy is hereunto annexed and made a part hereof, and has complied with the various requirements of law in such cases made and provided; and

Whereas, upon due examination made, the said claimant is adjudged to be justly entitled to a patent under the law:

Now, therefore, these letters patent are to grant unto the said Asa Quincy Reynolds, his heirs or assigns, for the term of seventeen years from the first day of May, one thousand eight hundred and seventy-seven, the exclusive right to make, use, and vend the said invention throughout the United States and the Territories thereof.

In testimony whereof I have hereunto set my hand and
54 caused the seal of the Patent Office to be affixed at the city of Washington this first day of May, in the year of our Lord one thousand eight hundred and seventy-seven, and of the Independence of the United States of America the one hundred and first.

[SEAL.] ELLIS SPEAR,
Commissioner of Patents.

Countersigned:
A. BELL,
Acting Secretary of the Interior.

(Here follow diagrams marked pp. 55, 56, & 57.)

58 UNITED STATES PATENT OFFICE.

ASA QUINCY REYNOLDS, of Chicago, Illinois.

Improvement in Automatic Fruit-Driers.

Specification forming part of Letters Patent No. 190,368, dated May 1, 1877; application filed April 2, 1877.

To all whom it may concern:

Be it known that I, Asa Quincy Reynolds, of Chicago, county of Cook, and State of Illinois, have invented certain new and useful improvements in automatic fruit-driers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a partial section and elevation of my improved fruit-drier, showing the same as being located over an ordinary stove, and illustrating a simple means of elevating the machine. Fig. 2 is a similar view, showing the drier as located over a large furnace, as in the most extensive dry-houses. Fig. 3 is a perspective view, illustrating the improved drier in a position removed from over an ordinary cooking-stove. Fig. 4 is a perspective view of a fragment of a square tray or section, showing more plainly the metallic lining and the sockets and pins, which may be conveniently used in this form of tray. Fig. 5 is a similar view of a fragment of a round tray or section, showing also the tin or metallic lining.

Like letters of reference in all the figures indicate corresponding parts.

3 Sheets—Sheet 1.

A. Q. REYNOLDS.

AUTOMATIC FRUIT DRIERS.

No. 190,368. Patented May 1, 1877.

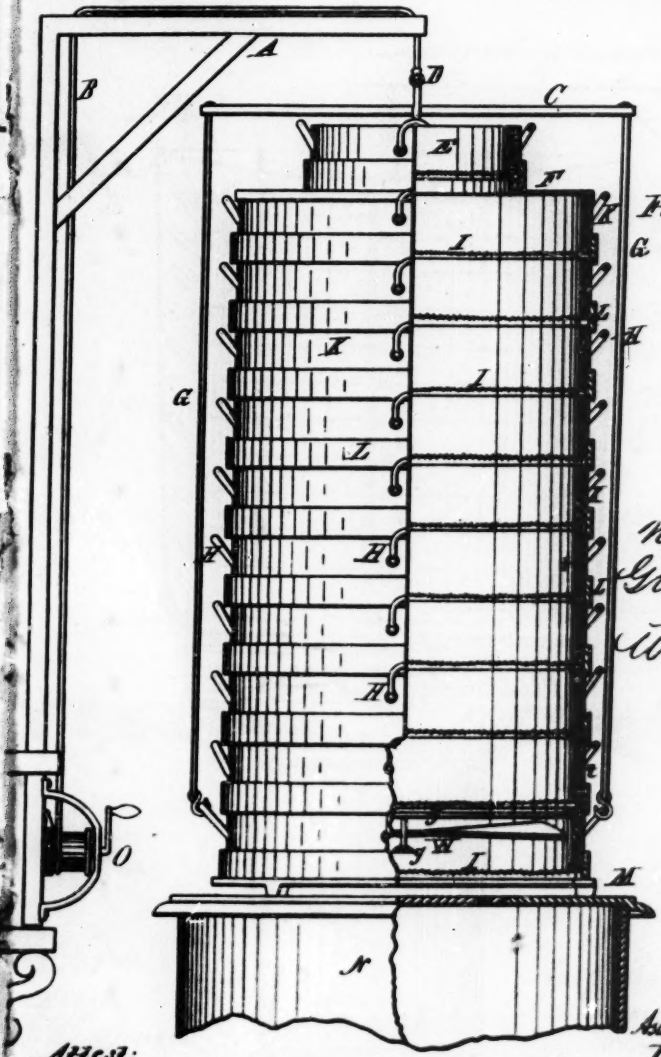


Fig. 1.

No. 148 Grier v. Wiet p. 55

Witnesses:
A. R. Searle
A. T. Cox

Asa Q. Reynolds, Inventor
By Munn & Co., Attorneys.

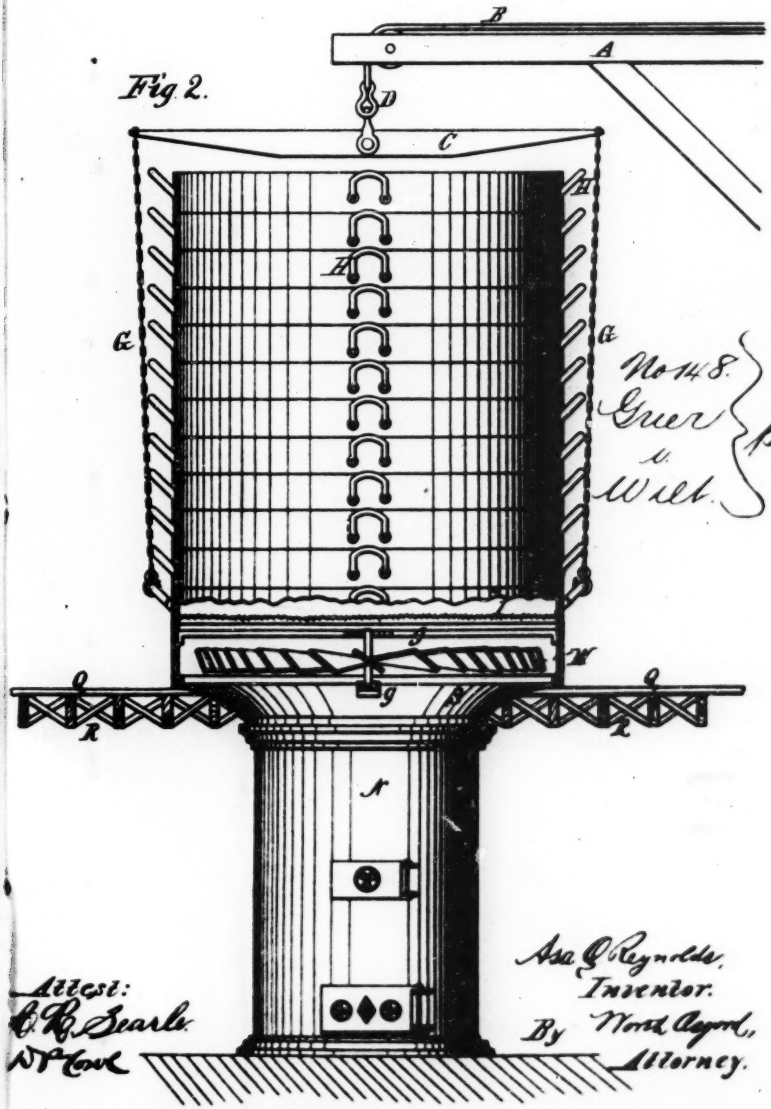
3 Sheets—Sheet 2.

A. Q. REYNOLDS.

AUTOMATIC FRUIT DRIERS.

No. 190,368. Patented May 1, 1877.

Fig. 2.



No 148. Grier v. Wiet. p. 56.

Attest:
C. B. Searle
W. P. Lovell

Asa Q. Reynolds, Inventor.
By Munn & Co., Attorneys.

The object of my invention is to simplify the construction of the fruit-driers in common use, both for domestic and factory purposes, reducing the cost, increasing the efficiency, and rendering them easier to be manipulated, and at the same time fire-proof, and capable of being enlarged or contracted at the pleasure of the operator; to accomplish all of which it (the invention) consists in certain details of construction and combinations of parts, as will be hereinafter fully described, and then pointed out in the claims.

In Fig. 1 N is an ordinary stove or heating-drum, over which is located the drier, consisting of a number of trays so constructed as that any one will receive a similar one above and also fit over a similar one below. For the lighter forms of driers I propose to make these trays of the ordinary sieves, or build them in the same manner, with perhaps two or more braces beneath the foraminated bottom, to give it sufficient strength to support the weight of fruit. K is the main body of the tray, having a surrounding hoop, L. The several trays being of one size (save the uppermost, to be hereinafter described), it will be observed that each one will form a section of the wall of the drier, no matter what its position, and that this wall may be increased in height as much as desired or found necessary.

A is a crane and B a rope or chain running over it and controlled by the windlass O. From the cross-bars C the ropes or chains G depend, and these are made to suspend the drier through the medium of the handles H H, &c., upon each tray. In order to prevent the drier from tipping when elevated, three or more handles should be employed in connection with a corresponding number of chains or ropes, G.

At M is shown an iron ring, supported slightly above the top of the stove N, and upon which the lower tray rests. The drier is built up as follows:

Fruit having been suitably disposed in a tray, the hooks upon the lower ends of the ropes G are placed under two or more of the handles H H, on the lowermost tray of the drier already over the stove, and the whole is elevated, by means of the windlass O, a trifle more than the depth of one tray. The fresh tray is then placed upon the ring M and those above lowered upon it, being so guided by the hands that the hoop of the one to which the ropes are attached will fit over the top of the one placed thereunder. In this way the drier may be built as high as desired by the successive introduction of trays below. The swinging crane and windlass combined is regarded as the simplest means likely to be employed for elevating the drier.

As the drying progresses and the trays are elevated, the fruit therein becomes more and more compact or shriveled up, leaving a comparatively free passage for the heated air through the body of the drier, in consequence of which very much of said air would pass off without accomplishing the work intended, and the partially-cured fruit occupying considerably less space than the fresh, it is desirable that one or more smaller-sized trays be provided for its reception.

59 Upon the top of the uppermost of the main series of trays

The object of my invention is to simplify the construction of the fruit-driers in common use, both for domestic and factory purposes, reducing the cost, increasing the efficiency, and rendering them easier to be manipulated, and at the same time fire-proof, and capable of being enlarged or contracted at the pleasure of the operator; to accomplish all of which it (the invention) consists in certain details of construction and combinations of parts, as will be hereinafter fully described, and then pointed out in the claims.

In Fig. 1 N is an ordinary stove or heating-drum, over which is located the drier, consisting of a number of trays so constructed as that any one will receive a similar one above and also fit over a similar one below. For the lighter forms of driers I propose to make these trays of the ordinary sieves, or build them in the same manner, with perhaps two or more braces beneath the foraminated bottom, to give it sufficient strength to support the weight of fruit. K is the main body of the tray, having a surrounding hoop, L. The several trays being of one size (save the uppermost, to be hereinafter described), it will be observed that each one will form a section of the wall of the drier, no matter what its position, and that this wall may be increased in height as much as desired or found necessary.

A is a crane and B a rope or chain running over it and controlled by the windlass O. From the cross-bars C the ropes or chains G depend, and these are made to suspend the drier through the medium of the handles H H, &c., upon each tray. In order to prevent the drier from tipping when elevated, three or more handles should be employed in connection with a corresponding number of chains or ropes, G.

At M is shown an iron ring, supported slightly above the top of the stove N, and upon which the lower tray rests. The drier is built up as follows:

Fruit having been suitably disposed in a tray, the hooks upon the lower ends of the ropes G are placed under two or more of the handles H H, on the lowermost tray of the drier already over the stove, and the whole is elevated, by means of the windlass O, a trifle more than the depth of one tray. The fresh tray is then placed upon the ring M and those above lowered upon it, being so guided by the hands that the hoop of the one to which the ropes are attached will fit over the top of the one placed thereunder. In this way the drier may be built as high as desired by the successive introduction of trays below. The swinging crane and windlass combined is regarded as the simplest means likely to be employed for elevating the drier.

As the drying progresses and the trays are elevated, the fruit therein becomes more and more compact or shriveled up, leaving a comparatively free passage for the heated air through the body of the drier, in consequence of which very much of said air would pass off without accomplishing the work intended, and the partially-cured fruit occupying considerably less space than the fresh, it is desirable that one or more smaller-sized trays be provided for its reception.

59 Upon the top of the uppermost of the main series of trays

I place a flange, F, having a circular opening, with upwardly-projecting collar, over which flange is located the tray E′, made in all respects similar to those below save as to its size. This flange serves to contract the flue formed by the series of trays below, and if the partially-dried fruit be placed in the tray E it will partially retard the flow of the air, and thus utilize so much thereof as would otherwise be wasted in the completion of the drying process. Above the flange F any number of small trays, E, may be placed, being matched one upon the other in a manner similar to those below.

Within each tray I propose to place a metallic lining, *t t* (preferably of bright tin), the object of which is to protect the wood of the trays from heat and prevent moisture from penetrating the same.

In Fig. 2 the series of trays forming the dry-house is shown as located over a large furnace placed below the flooring Q. This form is intended for the larger sizes of dry-houses, and is not different in principle or construction from that already described, except in that no hoops are illustrated as being placed upon the trays. These may be connected or matched with each other by any desirable and appropriate means.

It may be found advantageous to construct the trays in other forms than circular, as indicated in Fig. 4, wherein the pin *p* and socket P are secured at suitable points upon the outside, and arranged to engage with similar sockets and pins upon the trays above and below, after the manner adopted in "molders' flasks" and the like.

With the swinging crane the drier may be removed from over the stove, as shown at Fig. 3, when the ordinary cooking operations may be performed and the drier returned at pleasure; or, if desirable, the driers may be elevated above the stove, leaving sufficient space between the two for the cooking utensils, and thus the drying and cooking processes be conducted simultaneously.

At D, Figs. 1 and 2, is a swivel-connection, by means of which the series of trays may be revolved, and thus the drying equalized throughout.

As fast as the fruit is thoroughly cured the trays are removed from the top, and may then be inserted at bottom, after having been charged with a fresh supply.

In all fruit-driers it is observed that the material is liable to contract or shrivel in such manner as to open passages for the heated air, in consequence of which the fruit in the trays is unequally dried, the air passing off through these passages without coming in contact with the surrounding fruit. This difficulty has given rise to numerous inventions calculated to obviate it, among the most noticeable of which are revolving trays and revolving covers or shields for said trays. These are found in practice expensive to build, difficult to handle and move, and liable to get out of order; and it is a very important feature of the present invention to do away with all these objections.

This I accomplish by the introduction of a fan-weel calculated to retard the ascending currents of heated air, and to distribute them uniformly across the whole area of the fruit-containing tray.

In Fig. 1 the wheel W, composed of a series of inclined blades, is

pivoted between the two bars *g g*, which are attached to the metallic lining *t*, before alluded to. It is sufficiently elevated above the foraminated bottom I as not to interfere with the placing of fruit upon said bottom, if desired. The inclined blades cause the wheel to be rapidly revolved by the ascending currents of air, and these, meeting with a resistance, are compelled to pass by the blades in a uniform manner, said blades being so cut or separated as that they shall permit the passage of an equal quantity of air at every point below the bottom of the tray placed next above. Any number of these fans may be placed in the series of trays, as is apparent from the construction above described. They are automatically operated, not liable to get out of repair, and they are found to be very efficient for the purposes intended. If the currents of air be very rapid and strong, the revolutions of the wheels are correspondingly rapid, and thus, under all circumstances, the said currents are automatically regulated and always evenly distributed.

For the larger-sized driers the wheel W may advantageously be placed immediately over the funnel-mouth S, conducting the heated air from the furnace below, as in Fig. 2. It may be pivoted in any desirable way, and other fans may be distributed throughout the series of trays.

When the trays are made in square form one fan, occupying as much space therein as possible, will be found to work satisfactorily. If the trays be made oblong, then two fans might be introduced, the better to occupy the necessary space. They should, of course, be made to work upon about the same level. These wheels have now come to be denominated "flutter-wheels," and I desire to be understood as not limiting my invention to any particular number to be employed, to any specified location of said wheels in the drier, or to any particular method of suspending the same, so long as they are made to revolve independently of the trays, and to accomplish the results intended.

Having thus fully described my invention, what I claim as new, and desire to secure by letters patent, is—

1. In combination with a series of fruit-drying trays, located one above the other, a second or supplementary series smaller than the first, and adapted to operate as and for the purposes explained.

2. The plate F, adapted to cover the flue formed by the lower series of trays, and to receive and hold the upper series, the whole being arranged and combined substantially as set forth.

3. In combination with a fruit-drying tray, a fan-wheel operated by the ascending currents of heated air, movable independently of said tray, and adapted to equalize the currents of air, in the manner set forth.

4. In combination with a fruit-drier, the outer wall of which is made up of the frames of the several trays, as explained, a suspending device, operating substantially as described, and supporting said drier from a point in or on the lowermost tray thereof, for the objects named.

5. In combination with a fruit-drier adapted to be elevated, in

the manner described, and suspended above a stove or furnace, a suspending device, substantially as shown, provided with a swivel-connection, as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

ASA QUINCY REYNOLDS.

Witnesses:
PHILIP A. EARL.
CHAS. R. SEARLE.

61 COMPLAINANT'S EXHIBIT B. F. W. H., N. P.

(2–175.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of the letters patent granted George S. Grier October 28th, 1879, No. 221,056, for improvement in fruit driers.

In testimony whereof I, W. H. Doolittle, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this fourteenth day of February, in the year of our Lord one thousand eight hundred and eighty, and of the Independence of the United States the one hundred and fourth.

[SEAL.] W. H. DOOLITTLE,
Acting Commissioner.

62 No. 221,056.

THE UNITED STATES OF AMERICA.

Picture.

To all to whom these presents shall come:

Whereas George S. Grier, of Milford, Delaware, has presented to the Commissioner of Patents a petition praying for the grant of letters patent for an alleged new and useful improvement in fruit driers, a description of which invention is contained in the specification, of which a copy is hereunto annexed and made a part hereof, and has complied with the various requirements of law in such cases made and provided; and

Whereas, upon due examination made, the said claimant is adjudged to be justly entitled to a patent under the law:

Now, therefore, these letters patent are to grant unto the said George S. Grier, his heirs or assigns, for the term of seventeen years from the twenty-eighth day of October, one thousand eight hundred and seventy-nine, the exclusive right to make, use, and vend the said invention throughout the United States and the Territories thereof.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the city of
63 Washington this twenty-eighth day of October, in the year of our Lord one thousand eight hundred and seventy-nine,

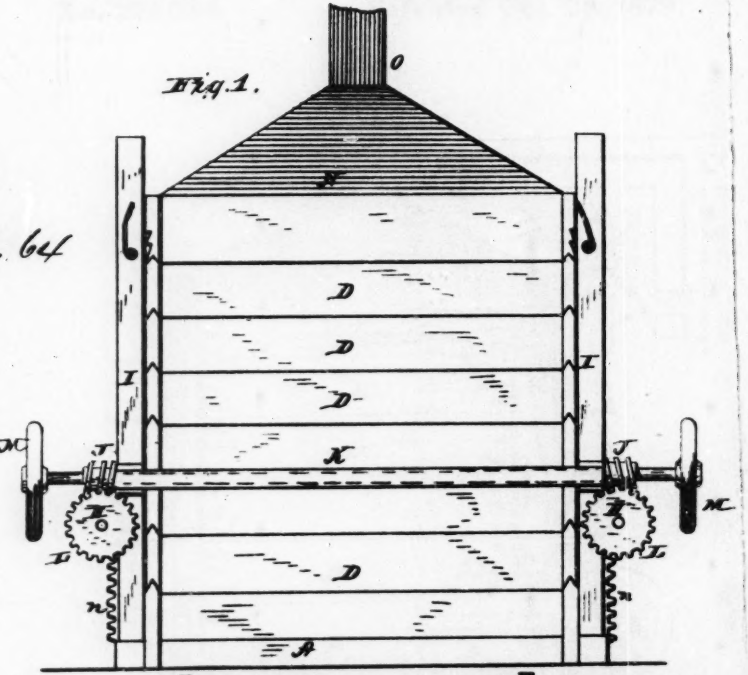
2 Sheets—Sheet

G. S. GRIER.

Fruit-Drier.

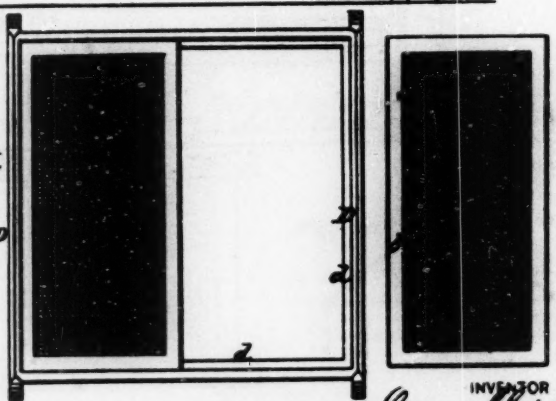
No. 221,056. Patented Oct. 28, 1879.

Fig. 1.



No 148.
Grier
Grier
p. 64

Fig. 5.



WITNESSES

F. L. Arnaud

J. J. McCathy.

INVENTOR

George S. Grier

Alexander Mason

ATTORNEYS

and of the Independence of the United States of America the one hundred and *fourth*.

[SEAL.]

H. E. PAINE,
Commissioner of Patents.

Countersigned:

C. SCHURZ,
Secretary of the Interior.

(Here follow diagrams marked p. p. 64 & 65.)

65½ UNITED STATES PATENT OFFICE.

GEORGE S. GRIER, of Milford, Delaware.

Improvement in Fruit-Driers.

Specification forming part of Letters Patent No. 221,056, dated October 28, 1879; application filed July 17, 1879.

To all whom it may concern:

Be it known that I, George S. Grier, of Milford, in the county of Kent, and in the State of Delaware, have invented certain new and useful improvements in fruit driers and evaporators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a fruit-evaporator, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation of my improved fruit-evaporator. Fig. 2 is a sectional view of the same. Fig. 3 shows the bottom of the drier. Fig. 4 is a vertical section of the roof. Fig. 5 shows one of the boxes with removable trays.

A represents a bed-frame, of suitable dimensions, provided with four upright posts, B B, between which the boxes are placed for forming the walls of the evaporator and holding the trays. In the bottom frame, A, are two straight bars, C C, crossing each other at right angles in the center and dividing the bottom of the evaporator into four equal divisions. In each division is arranged a series of inclined slats, *a a*, and the four series of said slats are inclined outward in the four different directions, whereby, when the evaporator is set over the furnace, the current of hot air, as it ascends, is directed to the sides of the machine.

D D represent the boxes which go to form the walls of the evaporator, and which are open at top and bottom. Each box contains one or more removable trays, *b*, which rest upon cleats *d* on the inside of the box.

The upper edges of the side bars of each box D are made V-shaped, while in their under edges are made corresponding grooves, so that the boxes will fit close together and can easily be moved back and forth. The outer sides of these side bars of the boxes have two or more horizontal notches, *x x*, at each end, into which take pivoted pawls *h h*. These pawls are pivoted to vertically-movable posts or uprights I I, which are connected to the stationary corner-posts B B by means of rods or bars *m*, attached to each post I, and passing vertically through eyes *i* in a groove on the stationary post B.

Each movable upright I is provided with a rack-bar, *n*, and the two rack-bars on the same side of the evaporator are operated by pinions *p* on a horizontal shaft, H. The two shafts H H, on opposite sides of the evaporator, are operated by worms J J on a shaft, K, at one end of the evaporator, said worms taking into gear-wheels L L on the ends of the shafts H H. The shaft K is provided with hand-wheels M M for turning the same.

In operation, the first box, having its tray or trays filled with fruit, is pushed in over the heater or furnace, and after being there, say, about ten minutes, more or less, as desired, it is raised up by the gearing and the pawls *h*, attached to the movable uprights I, and another or second box similarly filled with fruit pushed in under the first, and the first lowered down on the second, and so on until twenty or more boxes with trays have been arranged to form the evaporator.

It will be noticed that with my mechanism I lift each box independently of the others, so that I can lift a portion above, leaving the boxes of the lower part stationary by disengaging the pawls below. This enables the operator to examine any one or more of the boxes by sliding them out while those above are suspended.

N represents the cover with central stack O. This cover is put on the first box to cause a draft, and it is raised by resting on the top or first box, so that the evaporator is complete at all times, whether one or twenty, or more, boxes are inserted.

In the cover N is a bottom, P, which does not extend to the outer edges of the cover, thereby causing the vapor and heated air to be drawn from the middle to the sides to dry evenly; and it also aids in carrying off the fumes of the sulphur when such is used to bleach the fruit.

I am aware that a fruit-evaporator has been made with upright sliding bars or posts provided with spring-pawls, which pass under the trays to support the same, but in such case the pawls are inaccessible, and none of them can be thrown out of the way, whereas in my case the operator can easily disengage any one or more pawls on each post, so as to lift any one or more boxes, or all the boxes together, as may be desired.

Having thus fully described my invention, what I claim as new, and desire to secure by letters patent, is—

1. In a fruit-evaporator having its boxes or trays arranged to be lifted from the bottom, a lifting mechanism provided with means adapted to engage each or every box, whereby the boxes may be

lifted independently of each other or all together, substantially as herein set forth.

2. In a fruit-evaporator, four movable uprights, each having a series of pivoted pawls and arranged to slide in four stationary posts secured in a frame, in combination with a series of boxes or trays having notches on their sides, whereby the boxes may be lifted independently of each other or all together, substantially as herein set forth.

3. In a fruit-evaporator, the bottom composed of four groups or series of inclined slats, arranged as specified, to conduct the ascending current of hot air to the four sides of the evaporator, substantially as and for the purposes herein set forth.

4. In a fruit-evaporator, a series of open top and bottom boxes arranged to form the sides of the evaporator, and each box containing one or more removable trays, in combination with a lifting mechanism provided with means adapted to engage each or every box, whereby the boxes may be lifted independently of each other or all together, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand.

GEO. S. GRIER.

Witnesses:
H. AUBREY TOULMIN.
J. JOSEPH McCARTHY.

66½ COMPLANANT'S EXHIBIT D. F. W. H., N. P.

(Here follows diagram marked p. 67.)

68 *The Automatic Fruit Evaporator.*

In again presenting the automatic fruit evaporator to a discriminating public, we are enabled to do so with perfect confidence. When we came before the fruit growers of the United States two years ago with a new method of curing fruits, &c., we were satisfied that we were offering them an evaporator that combined in itself all the elements of entire and complete success, but, as it had not been as yet fully tested, it was looked upon as being somewhat of an experiment. Now, after a thorough test of the past two seasons, we are in a position to claim, with perfect confidence, that we are offering at once the cheapest and best possible method of curing fruits and vegetables.

What we claim for the "Automatic" is—

1st. It is fire proof. The fruit trough (formed of the fruit trays rising one above the other) is faced with tin, so that no wood surface is exposed to the heat. This renders the evaporator entirely safe from fire, a thing so necessary and desirable that it needs no elaborate argument to show its importance.

2nd. Its great simplicity. Its mechanism and mode of working is so simple and so easily understood that it does not require an expert to work it, but may be successfully operated by anybody of ordinary intelligence with a few hours' practice.

3d. It is the cheapest, as well as the best, evaporator in the market. The perfection and simplicity of its mechanism enables us to sell it at a much less price than it is possible to manufacture any other machine of equal capacity.

4th. Its economy in running expenses. It consumes less fuel and requires less labor to attend to it than any other evaporator that will do the same amount of work.

5th. Its uniform working. The fruit evaporated by it is uniformly of a superior excellence. In fact, it could not be otherwise with proper handling of the machine.

Mode of Working the "Automatic."

The trays are all entered at the bottom filled with the fresh fruit, remaining there directly over the furnace, subjected to an intense heat for from 5 to 15 minutes, the time being regulated by the degree of temperature of the hot air currents and by the amount of water contained in the fruit or vegetable to be evaporated. At first, while fresh and full of water, fruit, &c., will endure a high degree of heat without scalding or discoloration. After remaining over this first intense heat a sufficient length of time the tray, by means of a simple and effectual hoisting apparatus, is raised five inches and a second tray of fresh fruit introduced below it, which protects it from the high, dry temperature just above the heater.

Thus, just in proportion as the fruit has lost its moisture by evaporation and could not endure without injury a high temperature, it is removed at regular intervals from the intense heat and protected by more trays of fruit below until it reaches the top, perfectly cured, and that in an atmosphere just moist enough to secure the best possible results to the fruit. The principle here laid down is now conceded by all who have carefully studied the important interest of fruit curing, not in theory only, but who have had large practical experience in the business, to be the correct principle underlying the whole business and absolutely necessary to success.

69 Now, with an evaporator at prices within the reach of all, and of a capacity adapted to factory purposes or the wants and means of the small fruit growers, there is no longer any necessity or excuse for the waste of fruits heretofore so prevalent. Thoughtful observers have remarked during the past season that the fruit factories have saved the fruit growers of the State of Delaware from the disastrous effects of a broken-down and demoralized market, and this with not more than one-fourth of a crop.

If there had been half a crop there would not have been facilities for curing a sufficient quantity at home to have saved the market from a fearful break-down in prices. Whenever the point is reached that one-half a regular crop of fruits and berries can be profitably cured at home, and thus withheld from the fresh fruit sent to market, then, and not till then, will the peach grower of the Peninsula, or the fruit grower of the United States, be reasonably sure that he is going to market his products at a profit instead of a loss, the latter being too often the case during a very fruitful season.

To substantiate what we claim for the "automatic fruit evap-

orator," we invite your perusal of the following letters from prominent and well-known fruit growers, giving their experience with the "Automatic."

Testimonials.

MILFORD, DEL., *Oct. 4th*, 1877.

Automatic Fruit Evaporator Co.

GENTLEMEN: Your request that I should furnish you with my experience with the automatic evaporator, placed by you in my factory last season, is very cheerfully complied with. Early in the season I saw that I was likely to have a crop of peaches and began to investigate the claims of different evaporators, being convinced that, in order to realize the value of my crops, I must be prepared to evaporate my own fruit. I was satisfied that the Alden method was the correct plan, but, as they had been unfortunate in burning down several of their factories, I was afraid to risk one of their machines and purchased one of Grier's driers, modeled after the Williams machine, but with a galvanized iron fruit trough, which I considered safer from fire. After this purchase, however, I saw your "Automatic," and it appeared to me to combine all the requisites of a first-class machine and I secured a four-foot evaporator of you. I have used yours in connection with the Grier evaporator the past season and am prepared to give it my unqualified and emphatic approval. It is all, in every respect, that you claim for it.

The principle of its mode of working is so easily understood and its mechanism is so simple that one readily learns to run it successfully. Indeed, it works so easily and satisfactorily that it is a pleasure to run it in this regard, being in marked contrast with any other machine I have seen. My evaporated fruit is of uniform excellence and very handsome. I have already sold all my peeled peaches at the top figures of the market, which pays for my outlay on the evaporator and affords a handsome margin of profit. I would like to sell my Grier machine at a greatly reduced price.

JOHN J. ROSA.

In the season of 1878 discarded the Grier machine and put in another "Automatic."

MILFORD, DEL., *Oct. 16th*, 1877.

Automatic Fruit Evaporator Co.

GENTS: In reply to your letter of inquiry in regard to the working of the "Automatic," I have this to say: After using one of Corsa's machines for two seasons, I, last season, purchased one of yours—large size, 5 ft. spread—guaranteed to cure 200 baskets of peaches per day of 24 hours. As soon as I saw the "Automatic" I was satisfied that it was a good machine. It has proved a better machine than you claimed. I find that I can average, one day with another, 200 baskets per day, and on a test under favorable circumstances I can cure from 240 to 250 baskets per day.

It is under perfect control, easily worked, distributing the heat evenly, and producing always a very superior article of evaporated fruit. It is economical in the consumption of fuel, and in every

particular the very best evaporator with which I am acquainted, as well as the cheapest, and, what is of great importance, is as near fire-proof as anything of the kind can be made.

Yours respectfully, CHAS. BARKER.

Extract from Peninsular News and Advertiser, Milford, Delaware, May 25, 1877.

The Automatic Fruit Evaporator.—This new candidate for the favor of the fruit growers has been set up and is now in operation in this town. We have inspected it closely and observed it carefully and are inclined to the opinion that it meets a long-felt want; first, because of the excellent work it does on the true evaporating principle; and, second, because of the low cost of the machine. It consists essentially of a series of trays resting one upon another and forming a tight evaporating tower through which the heat passes from a well designed and constructed furnace at the bottom.

The furnace appears to be a perfect piece of mechanism and generates the necessary heat in an economical manner. The trays are all entered at the bottom filled with the green fruit, and the pile is easily and evenly raised by a crane power turned with a crank, so that even when full the whole pile is easily lifted and the fresh tray slid in over the heat box on an iron railway. When the trays are all full those first entered are at the top of the pile and are cured ready to be removed, and the tray filled and slid in at the bottom to start with its second load through the machine. It is well constructed, works admirably, and appears to be a great success.

The points most admirably covered by it are—

1st. The true evaporating principle of a rising column of heated air passing through the trays in its progress upward.

2d. Economy in running.

3d. Moderate cost of the machine.

4th. Great capacity and perfect distribution of the heat over all parts of the fruit trays.

MILFORD, DEL., *Feb. 6th*, 1879.

To Edward McFarland & John F. Wilt, Philadelphia, Pa.

GENTS: In reply to your inquiry in regard to the working of my "automatic fruit evaporator," I have this to say: I had for years desired an evaporator in order to save me from the disastrous effects of a glut in the market for fresh fruit, and was watching the workings of every new claimant for popular favor, but I found none that came up to my idea of a successful machine (except the Alden, which was too high priced and too likely to burn down) until I saw the "Automatic," which seemed to me to be just what was needed. I secured one and find it all that is to be desired, moderate in price, easily managed, fire-proof, and, what is of more importance than all else, turns out uniformly a strictly prime article of evaporated fruit wonderfully handsome and retaining all the flavor and delicious qualities of the ripe fruit. I am entirely satisfied with the "Automatic" and can heartily recommend it both for the small fruit

grower and for factory purposes. I can cure 125 bushels per day (24 hours) in my four-foot machine.

Yours truly, J. W. CUYKENDALL,
Milford, Del.

70 From the Atlanta Semi-Weekly, October, 1878.

The Automatic Fruit Dryer.

There was no display at the fair that deserves more credit than the exhibition made by R. Wayne Wilson of the automatic fruit evaporator.

It has been an axiom for years that if the farmers of Georgia could save their fruit crop they would become rich.

With this evaporator they can easily and with small expense dry their whole crop of peaches, apples, pears, etc., and can thus have a considerable and certain increase from what is now altogether wastage. They can find certain sale and profitable prices for fruit dried on this evaporator. It commands a premium.

We have seen dozens of so-called evaporators, but this is the only perfect one ever shown. It has swept the premiums everywhere. It took the first prize at Atlanta last week. There is no evaporator that compares with it in cheapness or efficiency. It is the cheapest, best, quickest, most reliable, and economical dryer in the world.

Mr. Wilson had specimens of fruit dried on the Automatic that attracted universal admiration. The color, flavor, and consistency of the fruit were preserved perfectly, and was such fruit as would command the highest prices and quickest sales in the North and West.

We recommend this dryer to the farmers as the best that they can possibly get. It is as perfect as machinery can be made.

Since writing the above we learn that the automatic evaporator has taken the first premium at the Macon State fair. It is simply incomparable. Send to Mr. Wilson for circulars and particulars.

OFFICE OF JOHN D. CUNNINGHAM,
ATTORNEY & COUNSELLOR AT LAW,
ATLANTA, GA., *July 14th*, 1878.

Mr. R. Wayne Wilson, agent for automatic fruit evaporator.

DEAR SIR: As requested, I make the following report of the machine (two ft.) bought of you: It works splendidly and is as near perfect, in my opinion, as it is possible to be. My agent at Orchard Hill has used both coal and wood, and reports that the machine will work satisfactory with either. With ordinary labor it will evaporate 20 bushels of green fruit daily.

Respectfully, JOHN D. CUNNINGHAM.

FREDONIA, NEW YORK, *Feb. 28th*, 1879.

To Edward McFarland & John F. Wilt.

DEAR SIRS: The evaporator we purchased of you in June last proves to be a complete success. The management is simple and readily understood. The fruit evaporated uniform in appearance, of the best

quality, and sold at remunerative prices. When proper attention is given it can hardly do other than perfect work. It certainly is all that you claimed for it, and it gives us great pleasure in sending you this assurance.

G. D. HINCKLEY,
For Fredonia Fruit Drying Co.

PALMYRA, N. Y., *March 17th*, 1879.

Edward McFarland & John F. Wilt.

DEAR SIRS: Yours of the 14th received asking my experience with the automatic evaporator. In regard to the merits of this machine, I must say that I have been highly pleased with the two large size machines purchased from you, and it affords me great pleasure in recommending them. For several years we have been more or less engaged in the curing of fruit by evaporation, and have examined and used several of the leading machines in the market with a view of getting the best in use, and as the Automatic was giving general satisfaction we concluded to give it a trial. So far we have had no cause to regret the choice made. We can cure with each 5-foot machine (in 24 hours) 200 to 225 baskets of peaches and about 125 bushels of apples. The quality of the dried fruit is equal to that produced by any of the other evaporators. The simplicity of construction renders the management very easy, and I can cheerfully recommend them to the favor of all. Hoping you may meet with the success your drier merits,

I am, sir, yours with respect,

P. P. WYNKOOP.

ATLANTA, GA., *March 19th*, 1879.

To Edward McFarland & John F. Wilt, No. 112 N. Sixth St.:

After having tried one of Alden's 5-ft. machines, we erected in our factory, this past season, one 5-ft., one 3-ft., and one 2-ft. "Automatic," and found same to give satisfaction in every particular.

Specimens of our fruit cured in these machines took premiums at several fairs in this State during [the] fall. We think the "Automatic" to be superior in all respects to any of the various patents we have examined, being under better control, easier to work, and taking fewer hands, besides curing better fruit, in greater quantities, in a shorter space of time. In point of economy and safety (from fire) it cannot be surpassed. It consumes little fuel, and, owing to its careful and admirable construction, keeps the fruit clean and pure and absolutely free from dust, ashes, &c.

Very repectfully,

ATLANTA VAPOR CURED FRUIT CO.

SACO, ME., *March 26th*, 1879.

Messrs. Edward McFarland & John F. Wilt.

GENTS: The Automatic I bought of you last October was started up Oct. 24th, and kept running day and night to the middle of

February last, drying about 100 bushels per day, and turning out nice white fruit. I consider your evaporator very simple in construction, easily controlled, and capable of doing first-class work. Any practical man can be convinced in thirty minutes of the excellence of your evaporator. My only regret is that, instead [of] running one 4-foot machine, I had not had two or more five feet.

Yours, &c., D. F. LITTLEFIELD.

Sizes and prices:

20 trays,	24	inches	square,	with	heater	and	governor	-----	$100	00
25 "	36	"	"	"	"	"	"	-----	300	00
25 "	48	"	"	"	"	"	"	-----	450	00
25 "	60	"	"	"	"	"	"	-----	600	00

R. WAYNE WILSON,
Atlanta, Ga., Agent for the State of Georgia.

71 *Defendant's Testimony.*

In the Circuit Court of the United States for the District of Delaware. In Equity.

JOHN F. WILT *vs.* GEORGE S. GRIER.

Testimony of witnesses on behalf of the defendant in the above cause, taken before S. Rodmond Smith, standing examiner of said court, at his office in the post office building, at the southeast corner of Sixth and King streets, in the city of Wilmington, in the State of Delaware, on the eleventh day of May, A. D. 1880, at 11 o'clock a. m., and on subsequent days by adjournment. S. Rodmond Smith, standing examiner.

MAY 11TH, A. D. 1880—11 o'clock a. m.

Present: Worth Osgood, Esq., counsel for complainant; George P. Fisher, Esq., counsel for defendant.

RICHARD D. WILLIAMS, being duly sworn, deposes and says:

My name is Richard D. Williams; age, 30 years; residence, Baltimore, Md.; occupation, solicitor of patents and expert.

72 Q. 1. What has been the nature of your education, and what experience, if any, have you had in comparing and examining inventions?

A. My collegiate education in this country and abroad was devoted almost exclusively to scientific and mechanical subjects. From 1871 to 1875 I was professor of natural sciences in the Maryland Agricultural College, and was subsequently, for about a year and a half, a member of the examining corps of the United States Patent Office. I have, since 1876, been engaged in the practice of my present profession, and have been frequently called upon to examine and compare mechanical inventions and to give expert testimony in patent and other causes.

Q. 2. Please state the nature and character of the duties of a member of the examining corps of the U. S. Patent Office.

A. His duty is to take up the applications assigned to him for examination, and to decide as to the novelty and patentability of the devices claimed, which decision is based upon a search through the records of the Patent Office and such other sources of information as may be at his command.

Q. 3. Have you examined letters patent No. 190,368, granted to A. Q. Reynolds May 1st, 1879, and letters patent 221,056, granted to George S. Grier October 28, 1879? And, if yea, state whether or not a machine made in accordance with the specifications and drawings of the latter would be an infringement of the fourth
73 claim of the Reynolds patent, giving the reasons for your answer.

A. In my judgment it would not; the fourth claim of the Reynolds patent is laid to the combination with a fruit drier, the outer wall of which is made up of the frames of the several trays, of a suspending device supporting the drier from a point in or on the lowermost tray thereof, as explained. A device made in accordance with the specification and drawings of the Grier patent would not, strictly speaking, have its outer wall made up of the frames of the several trays, though in this respect its difference from the Reynolds device would, in my judgment, be merely colorable. A salient and important difference, however, between it and the Reynolds device would be found in the fact that its trays constituting said drier would not be supported "from a point in or on the lowermost tray thereof," but each box or tray would be supported independently of any of the others. The mode of lifting of the stack of trays in the Grier advice admits of the removal at will from the stack of any desired one of the trays. I may add that it is old in the art to lift the stack of trays from a point in or on the lowermost tray thereof, and that a fruit drier whose outer wall is made up of the frames of the trays is also old, as shown respectively by letters patent of the United States No. 155,286, granted September 22nd, 1874, to O. Button, and No. 108,289, granted October 11th,
74 1870, to J. B. Okey, and 48738, granted July 11th, 1865, to A. Snyder, certified copies of which I here produce and request the examiner to mark the same.

(Question and answer objected to—the question because it assumes that the witness, who does not appear by the record to be a lawyer or a person familiar with the patent laws, is competent to give any reliable opinion based upon any knowledge of the application of the patent laws, and the answer, first, because in presuming to make it in its present form the witness arrogates to himself the functions of *of* a United States court; second, because it does not appear therefrom that the witness has heretofore examined either of the patents referred to in the question; third, the concluding portion of the answer is voluntary, uncalled for by the question, immaterial, irrelevant, and seeks to introduce in evidence matter not warranted by the pleadings, which matter is a surprise to counsel for complainant. Moreover, the witness assumes to inject exhibits, which is the sole province of the counsel. The reception of the papers referred to in evidence is objected to on the ground that they are not prop-

erly introduced, are a surprise to the counsel for the complainant, and are new to the case.)

Q. 4. State whether or not it is old in the art to lift up a stack of trays in a fruit driver by means of a mechanical appliance acting upon the lowermost tray of the series.

75 (Question objected to, [as] the witness does not appear to be a person who has made himself familiar with the art of fruit drying, or with machines used in such art, and he has not shown himself to be qualified to give an authoritative answer to the question.)

A. From a careful investigation into the state of the art in fruit driers, based upon an examination of the United States patents for the same, I am enabled to state that it is old to lift the stack of trays from the bottom, as shown, for instance, in Defendant's Exhibit No. 3.

Q. 5. State whether or not the function or operation of the suspending or lifting device in raising the stack of trays in a fruit drier is in any way dependent upon or affected by the fact that the outer wall of the drier is or is not made up of the walls of the trays.

A. It is not.

Q. 6. What features, then, do you find in common between the Grier and Reynolds driers as shown by the certified copies of the patents issued to those parties filed in complainant's evidence?

A. Both driers have their outer walls made up substantially of the frames of the trays; both have an elevating device for lifting the trays, in order to insert a fresh one at the bottom, and both are arranged to be mounted upon or above a stove or a suitable source of heat. These features I find in common between the two devices, and the state of the art shows them to be older than either

76 patent to Reynolds or Grier.

Q. 7. Then, Mr. Williams, do I understand you to say that there is nothing in common between these two patents—the Reynolds or Grier—that is not older than either of them?

A. You do.

Q. 8. In view of the state of the art as shown by these exhibits—the patents of Snyder and Button and Okey—what construction do you put upon the fourth claim of the Reynolds patent as an expert?

A. I should consider it limited (if the claim is valid at all) to the particular devices for suspending the trays, in combination with the trays.

Q. 9. Please look at the model filed as Complainant's Exhibit "C, F. W. H., N. P.," March 18, 1880, in this cause, and also at the specifications, drawings, and claims of the Reynolds patent, and tell me if, in your opinion as an expert, the model is constructed in accordance with said specifications, drawings, and claims.

A. The model, Complainant's Exhibit "C," shows many points of difference from the device shown, described, and claimed in the Reynolds patent, Complainant's Exhibit "A." The patent states the invention to consist in certain details of construction, which will be pointed out in the claims. The smaller or supplementary series of trays of claim "1," the "plate F, covering the lower series and sup-

porting the upper series" of the second claim, "the fan-wheel" of the third claim, the suspending device provided with a
77 swivelling connection of the fifth claim, are all absent in the model, and the "suspending device supporting the drier from a point on the lowermost tray" of the fourth claim is old, as shown in the Button exhibit. I should therefore state that Complainant's Exhibit "C" is not made in accordance with his invention as set forth in his patent.

Q. 10. Look at claim four of the Reynolds patent, No. 190,368, and tell me whether or not the suspending device in said fourth claim mentioned operates substantially by means of the crane "A," the rope or chain "B," running over said crane and controlled by the windlass "O," and by means of cross-bars "C," from which the ropes or chains "G" depend and suspend the drier by means of handles "H H," &c.

A. It does.

Q. 11. Is or is not the elevating device in the Grier patent and also in the Complainant's Exhibit "C" operated each by an entirely different mechanical arrangement?

A. They all differ structurally from the device shown in the Reynolds patent.

Q. 12. Do you find in the Grier machine any suspending device operating by means of a crane, rope, or chain running over it with a windlass and cross-bars and handles upon the trays?

A. I do not.

Q. 13. Then, do you find any such device as mentioned in
78 the last question in combination with a fruit drier whose outer wall is made up of the frames of several trays?

A. I do not, and for that reason repeat that I do not consider the fourth claim of Reynolds' patent infringed by the Grier device.

Q. 14. In a machine constructed according to Grier's patent, is it or not necessary to lift all the trays in order to insert a new one—a fresh one—lifting from a point in or on the lowermost tray, or can you or not lift any one tray without lifting any of the others? In other words, can you or not make a gap or vacancy in the stack of trays anywhere between the lowermost and uppermost trays?

A. The stack of trays in the Grier device may be separated at any point by simply throwing out of engagement the pawls below the point of desired separation and operating the elevating mechanism. Each tray is lifted by means of its own ratchet and pawl and not by resting upon a subjacent tray, as in the Reynolds device. It differs from the Reynolds device in that respect.

Cross-examination:

X Q. 1. You state that you are an expert. What manner of expert do you profess to be?

A. An expert on scientific and mechanical subjects.

X Q. 2. Please state briefly what practical experience you
79 have had in connection with mechanics in the mechanical art.

A. I do not profess to be a mechanic in the sense of having

worked in any machine shops, and my knowledge of mechanics and scientific subjects has been principally acquired by reading and by watching others who were doing the manual work in foundries, factories, and workshops.

X Q. 3. Then I take it that your knowledge of the mechanical arts is totally theoretic?

A. No; I think not. As thorough an acquaintance with a mechanical operation can, I believe, be acquired by careful observation as by manual labor.

(Answer is objected to as being argumentative in form and not responsive to the question.)

X Q. 4. I now ask you whether or not you have had any practical experience in the mechanic art, and, if so, what has been your practical experience?

A. I have made it a point, whenever it has been in my power, to gain access to a factory or workshop in which an industry was being carried on with which I was not acquainted——

(Witness is here interrupted and warned that he is not making an answer to the question; the question calls for a simple affirmative or negative answer, without argument or any attempt at an excuse.)

To go there and examine it. I have incidentally assisted occasionally; but, to answer your question as nearly categori-
80 cally as possible, I do not profess to be a practical mechanic.

(The answer is objected to as not responsive to the question.)

X Q. 5. In what institution or institutions did you receive your collegiate education?

A. In the University of Virginia and the University of Göttingen, Prussia.

X Q. 6. Name briefly the mechanical subjects to which you alluded in your answer to question "1," direct.

A. Physics and mechanics. The text-books which I studied and which I used for four years to lecture from were Peck, Ganot, and Silliman.

X Q. 7. What do you understand by a horse-power in mechanics?

A. As nearly as I can recollect the formula off-hand, it is such a power as will raise 33,000 lbs. one foot in one minute. I never memorize formulæ.

X Q. 8. How do you measure force in mechanics?

A. By stating it will raise a certain weight a certain distance in a given time.

X Q. 9. You misunderstand the question. I want to know the unit of measurement or the terms in which the force is estimated.

A. The technical term in this country is a foot-pound.

81 X Q. 10. Having given a force equal to one thousand foot-pounds to move a certain resistance, will it, according to your knowledge of mechanics, make any difference what manner of mechanical appliance is used to transmit the force, friction of parts and convenience being disregarded?

A. Theoretically, not.

X Q. 11. In what line of mechanical cases have you heretofore been examined as mechanical expert?

A. Railroad brakes, hay and cotton presses, and soldering devices.

X Q. 12. Please state briefly the manner of your connection with the present cause—how, when, and by whom you were retained, and whether or not you have heretofore been professionally engaged in connection with matters relating to fruit-driers?

A. I received, I think, some six weeks ago a letter from Judge Fisher stating that he desired my services in this cause, and inquiring my terms; I answered, stating them, and they were accepted. I have never been professionally engaged as an expert in a fruit-drier case, but I have secured patents in the class of driers.

X Q. 13. Have you read the testimony on the part of the complainant given by Mr. Peirce?

A. Yes.

X Q. 14. In your answer to question "2," direct, you named some of the duties of a member of the examining corps in the
82 Patent Office, among which you state that he is to decide as to novelty and patentability; which particular members of such examining corps make such decisions?

A. The heads of the classes comparatively rarely do the actual work of examining; that is left to the assistants, whose report to the principal is practically final; but the principal examiner is responsible for the decision.

X Q. 15. Were you in a position in the Patent Office such as to be responsible for decisions as to novelty and patentability, or did you make reports to the chief of your division?

A. I was an assistant and made reports, but they were practically final. I was, however, not responsible for the decisions.

X Q. 16. Taking the Reynolds patent, do you find in it shown and described a fruit-drier, the outer wall of which is made up of the several trays?

A. Yes.

X Q. 17. Do you find in this same patent a mechanical device arranged in connection with such fruit drier which is capable of elevating the stack of trays when coupled with the lowermost tray of the stack at a point in or on said tray?

A. Yes.

X Q. 18. In the Reynolds patent how is it proposed that the several trays shall be introduced in the stack, after having been filled?

A. From the bottom, and there only; the stack is lifted, the
83 tray placed under it; the stack is then lowered upon it, and the grappling devices transferred to the tray last inserted.

X Q. 19. Referring now to the Grier patent, do you find in it a fruit drier the outer wall of which is made up of the several trays?

A. Not literally; but I think the change in this respect is only colorable.

X Q. 20. Do you find in this Grier patent a mechanical device arranged in connection with such fruit drier which is capable of elevating the stack of trays when coupled with the lowermost tray of the stack at a point in or on said tray?

A. Undoubtedly, by throwing all the pawls but the lowermost set out of gear, and by making those pawls strong enough to sustain the weight of the entire series; in a word, by perverting the construction of the apparatus and the mode in which it is adapted and is intended to be used it might be made to operate after the manner of the Reynolds or Button devices.

X Q. 21. I refer to the construction shown in the Grier patent. How will you make it any perversion of the construction to throw out of gear any one or more of the pawls, or any perversion of the capabilities of the machine to use it as *is* it is capable of being used and has been used in practice?

A. Your question assumes that which I neither know nor believe.
84 I do not think any one in his senses would throw out of gear the pawls which support the several trays and cause the entire series to rest, with their load of fruit, upon the support of the lower series of pawls alone, and therefore I consider such an act would be a perversion of the construction and mode of operation of the device.

(Answer is objected to as being argumentative, not satisfactory, and tending to reflect discredit upon the supposed assumptions of the counsel for the complainant.)

X Q. 22. Suppose you have the Grier machine ready to be put in operation and one tray loaded with green fruit, and that you desire to commence the drying operation, what will you do with the loaded tray?

A. If I desire to dry that charge I should do so by pushing the tray in over the heater or furnace.

X Q. 23. Now, having filled the second tray with green fruit, how will you introduce it beneath the first-named tray?

A. I should hoist it and slide in the second as I had the first.

X Q. 24. That is to say, you would elevate the first tray by the application of the mechanical contrivance and place the second one underneath the first, and lower the first upon the second, so as to complete the walls of the drying flue. Am I correct?

A. Yes.

X Q. 25. Then, how will you introduce a third tray beneath the second?

85 A. By raising the two in the same manner that the first had been raised, each tray being lifted by its appropriate pawls and entirely independently of the fact that there is one, a dozen, or no trays at all under it.

X Q. 26. But the question assumes no more than three trays so far. Will you point out to me in the Grier patent the pawls by which you propose to elevate the first two of the series, in order to be able to slide the third beneath the second?

A. None of the pawls "H" are very clearly shown in the drawings of the Grier patent, the letter of reference "H" only being shown on three out of the seven pawls. I here hand you a copy of the Grier patent, on which I have drawn lines pointing to the other four pawls. All the pawls are uniform in shape and equi-

distant, as shown by the drawings. The two lower pawls catch the two lower trays.

(Paper filed and marked Defendant's Exhibit "4.")

X Q. 27. Do you happen to know what percentage of weight remains in the lower tray when it is regarded as in condition to be elevated so as to slip in another tray?

A. No; I don't. That would depend upon the approximation to complete drying.

X Q. 28. Do you imagine that it will take any stronger pawl to elevate the two trays of dried fruit than to elevate one tray
86 of green fruit?

A. Never having seen a drier of this class in actual operation and not having the remotest idea as to what degree of dryness of the fruit in the first tray is desirable before it is lifted, I cannot say.

X Q. 29. Well, we will assume that we have only three trays in the series, the fruit in the upper one as being so dry as to be fit to be removed, and the lower pawl strong enough to elevate the second and third of the series after the first is removed. Would you regard it as senseless on the part of the operator if he neglected to use more than the lower pawl or would you regard such capable use of the machine as any perversion of its legitimate functions?

A. I should regard any neglect to do what should be done as senseless and such act as a perversion of its legitimate functions.

X Q. 30. Now we have the fact that you do regard these operations as senseless and as perversions; will you please give the reasons which govern your answer?

A. To throw the pawls out of gear would be to do a thing for which I can conceive no possible object, and in case the operator desired to remove a tray from the middle of the stack or to open the stack at any point in order to inspect the fruit and ascertain the progress of the evaporation he would be compelled to do
87 his senseless work over again and make his pawls engage with the ratchets.

X Q. 31. How senseless would it be on the part of an operator who desired to open the stack, as you describe, if he left all the pawls in engagement—as your answer assumes that it would be senseless for him not to do—or, in other words, how could the stack be opened if all the pawls were in engagement with the notches in or on the several trays in the series?

A. Of course to open the stack at any point the pawls below that point must be thrown out of gear.

X Q. 32. Then I understand in your answer that it is no perversion of the functions of the Grier machine to leave some of the pawls out of the gear?

A. Then you make a purely gratuitous assumption. The pawls are designed to lift the trays, and to throw any of them out of gear would be, except when it is desired to open the stack at any point, to do an act for which, I repeat, I can see no possible object.

X Q. 33. Suppose there is no object in leaving some of the pawls

out of gear except to save time and trouble, and suppose the machine to be so constructed as that some of the pawls need not be employed, would there be, in your opinion, any perversion of the legitimate functions of the machine when they were simply thrown out of gear?

A. Supposing, as your question assumes, some of the pawls
88 to be surperfluous and unnecessary, there would be no such perversion by leaving them out of gear or throwing them away entirely.

X Q. 34. Then with the three trays in use, as I have previously assumed, and all the pawls thrown out of gear except the lowermost set, which is capable of being done in the Grier machine, do you or do you not find in this Grier machine a mechanical contrivance capable of elevating the series of trays after having been coupled with the lowermost of the series?

A. If the pawls in engagement with the lowermost tray were made strong enough to support the superincumbent weight and the other pawls are thrown out of gear, I see no reason to doubt that the stack you describe might be lifted.

X Q. 35. Then, assuming that the fourth claim of the Reynolds patent is a good claim, under such circumstances, would or would not, in your opinion, the Grier machine contain all that is called for by said fourth claim and be, in point of fact, an infringement thereof?

A. I can conceive it abundantly possible to so alter the construction and operation of a Grier machine as to make it an infringement of the Reynolds fourth claim. Assuming that claim to be good, and assuming it to cover broadly the feature of lifting the stack from a point on the bottom tray, then such change as your question predicates would bring the Grier device within its terms; such a
89 construction of the claim would, however, be as repugnant to the state of the art as such a change of the Grier device would be to his patent.

X Q. 36. The question does not assume any change whatever in the Grier device, nor does it assume that this device shall be operated, except as you have stated that it is capable of being operated. Now with this explanation I repeat my former question and ask whether or not the terms of the fourth claim of the Reynolds patent are answered by the convenient, capable, and natural use of the Grier machine under the circumstances named.

A. Your question assumes a "convenient, capable, and natural use" of a Grier machine, consisting of but three trays, of which the lowermost one is provided with pawls strong enough to support the series. Such a device would, I think, be within the terms of the fourth claim of the Reynolds patent, broadly construed.

X Q. 37. Are you prepared to say that the pawls in the Grier machine are capable of supporting no more than the weight of one tray?

A. No; but, as the inventor don't appear to have anticipated their being called upon to support the whole series, I imagine they would not be made to do so.

X Q. 38. Suppose they were made of about the thickness of iron indicated in the drawing of the Grier patent, would they, in your opinion, be capable of supporting two trays with dried fruit, the fruit weighing when dried, say, twenty-five pounds?

90 A. I am unable to state. The pawls are badly shown, both as to location and size.

X Q. 39. From your knowledge of the strength of materials, would you imagine that a pawl made of iron, as in the Grier patent, about a half an inch thick by ¾ of an inch wide, inclined in the direction indicated, would fail to support less than one ton?

A. No, probably not.

X Q. 40. Please name any advantage which you may discover in constructing a drier so that the frames of the several trays shall make up the walls of the drying flue?

A. I see no functional advantage, other than the facility which may thereby be afforded for examining the contents of any tray of the series.

X Q. 41. In a drier so constructed what is the limit to the number of trays which may be employed?

A. Theoretically there is none.

X Q. 42. How is it with respect to driers in which an exterior casing is employed?

A. Theoretically there is none; practically the limit would be reached, I presume, about the same time in either case, namely, when the height of the stack became such that the mani-ulations of the device would be inconvenient.

91 X Q. 43. Having given a drier of the second class, with a suitable opening in the casing for the removal of the upper tray of the stack, are you not limited to the use of a particular number of trays which will reach from the inlet opening to the outlet opening?

A. Certainly not, provided mechanism be used for the purpose of hoisting the trays until the trays come *seriatim* opposite the upper opening.

X Q. 44. The question is not as to how few or small a number of trays may be used, but as to how great a number may be used.

A. Of course, no greater number would be used at a time than would form a stack reaching from the lower to the upper opening.

X Q. 45. Then, is it not a functional advantage of the first class of driers to permit the use of any desired number of trays, be the same large or small?

A. No, and for the reason that the distance from the lower to the upper opening in a drier of the second class is no more limited than the number of trays constituting the stack of a drier of the first class.

X Q. 46. But the question presumes that you have your dry-house or outer casing already built, and the distance between the two openings is fixed unchangeably. With this understanding, what would be your answer to the previous question?

A. The same; and for the reason that a person of com-

92 petent skill who built the already-made dry-house would have

put the openings sufficiently far apart to accommodate the maximum number of trays desired.

X Q. 47. The answer assumes something not embraced in the question. Suppose that an unskilled workman had placed these two openings ten feet apart, and that afterwards we found it desirable to use a stack of trays fifteen feet high, under such a supposition would there not be a functional advantage in the first class of driers (wherein you say we can use any proper number of trays) over the second class of driers?

A. It is manifest that a stack of trays fifteen feet high cannot be put into a ten-foot dry-house, and hence such a combination would be functionally inferior to a series of trays constituting a drier of the first class, unless the unskilled workman your question refers to had made his fifteen-foot stack consist of one tray fourteen feet deep and another one one foot.

X Q. 48. Do you discover any advantages in the one class over the other in the matter of cost of construction?

A. There would probably be an economical advantage in favor of the drier of the first class. I imagine it would be somewhat cheaper.

X Q. 49. Is there, in your opinion, a legitimate combination between the several trays of the first-named class and a me-
93 chanical device for moving the trays in order that the stack may be built up by additions at the bottom?

A. I doubt it. It is clear that, in order to insert a tray under the series, *that* a force must be applied, directly or indirectly, to the lowermost tray, but I doubt very much whether there is a legitimate combination between that particular class of trays and a lifting device. Each element of the supposed combination appears to me to carry out its peculiar function independent of the other.

X Q. 50. What function would the lifting device perform, independent of the trays, and how could the trays be elevated without the lifting device?

A. The function of the lifting device is to lift the trays. What I meant to convey by my previous answer is that it does this independently of the fact that the trays are of such construction that their frames constitute the outer wall of the drier, or, indeed, that they are trays at all.

X Q. 51. Will you now point out from among the devices or descriptions (which I place before you) those driers wherein there appear, first, a drier in which the outer wall is made up of the frames of the several trays; and, second, in connection with such drier, a mechanical appliance capable of elevating the lowermost tray and holding it up so that a fresh tray may be inserted beneath,
94 and then dropping the lowermost tray upon the last one?

A. As to the first part of your question, I find in Defendant's Exhibit No. "3," Defendant's Exhibit No. "2," Complainant's Exhibit- "A" and "B" and "C" driers in which the outer wall is made up of the frames of the several trays, and as to the second part of your question, I find such a device in Complainant's Exhibits "A" and "B" and "C."

X Q. 52. Referring to figure "2" of the Reynolds patent, suppose

we wanted to make a gap between the two trays at the bottom of the stack, what would you do with the elevating hooks?

A. I should do nothing with them; they could not possibly operate, even to open the stack at that point, as shown in the drawings to which you have called my attention, since the swivel "D" would bring up against the sheave before the chains would come taut, if the hooks were transferred to the handles of the second tray of the series.

X Q. 53. What length of supporting post is shown in figure "2?"

A. A supporting post is not shown at all.

X Q. 54. Does its omission indicate to your mind that it may be, or must necessarily be, of any prescribed length?

A. No; but your draughtsman was consistent in all the figures of the drawings of the Reynolds patent to show the cross-bar of
95 the crane so close to the cross-bars from which the suspending ropes depend that the relative lengths of the supporting post and the stacks of trays are made evident.

X Q. 55. I refer to figure "3" and repeat the question.

A. I refer to figure "3" and repeat the answer. The swivel connection "D" is not shown in this figure as it is on a smaller scale in the others; but if it were there it would jam on the sheave before the hooks transferred to the second row of handles would come tense.

X Q. 56. Does the specification of the Reynolds patent indicate to your mind that any desired number of trays may be employed in a machine constructed in accordance with his invention?

A. Any number may be employed up to that which would fill up the space between the hooks and the cross-bar "C."

X Q. 57. Then if we left off three or four of the trays, shown at the top of figure "2," the opening of the stack could be accomplished, could it not?

A. Certainly not; by any operation shown, described, or hinted at in the patent.

X Q. 58. Could the opening be accomplished by use of the contrivance shown in figure "2," or in figure "1," or in figure "3?"

[A.] Not by means of the devices therein shown. It is
96 true that one might tie knots in the chains, or send for a blacksmith and have them cut and shortened to catch upon the handles of any particular upper tray, but no such thing is shown to have been contemplated, and would need to be undone to restore the device to its proper working condition.

X Q. 59. Can you not conceive of some other way of accomplishing this object besides sending for the blacksmith or tying knots in the chains?

A. Yes.

X Q. 60. Explain one other method.

A. The chains might be wrapped around the ends of the bar "C."

X Q. 61. How would it be if you should simply slip the chain through the handles and bend it over upon itself?

A. That would do it.

X Q. 62. Then I understand you to admit that it is possible to

accomplish the desired object, namely, to open the stack for inspection, in a machine constructed in accordance with the Reynolds patent as well as in one constructed in accordance with the Grier patent?

A. The trays will separate in either case at any point, and upon knotting up or shortening the chains of the Reynolds it might be possible, if the cross-bar were placed high enough above the stove or oven to prevent interference with the swivel, which is not the case in the Reynolds device, as shown, to open the series at
97 an intermediate point. It would certainly not be possible, however, with the device as shown in the Reynolds drawings, to lift any tray from that next beneath far enough to release it from its engagement with its top flange and permit its removal or the inspection of its contents. The device is not adapted and was never intended for such purpose.

X Q. 63. How do you reconcile your last answer with your answer to cross-question 61, and what impression did you expect to convey by the concluding portion of your last answer; and what difference does it make whether or not the capabilities of a machine were contemplated by the inventor so long as he has shown his device in such shape that these capabilities may be taken advantage of for some useful purpose?

A. My answer to cross-question 61 was a statement that the method described in cross-question 61 would enable one to lift an intermediate tray, so far as the shortening of the chain is concerned, and is perfectly reconcilable with my last answer. It makes no difference, so far as the scope of a patent is concerned, whether the inventor contemplated any particular capability of the device or not. By the concluding portion of my last answer I undertook to convey precisely what I stated. The Reynolds device is palpably not adapted for operation in the manner referred to, and the patent does not show that the inventor ever contemplated it, though the latter would be
98 immaterial if the device were practically adapted to operate in that way.

X Q. 64. You have stated that the device referred to can, under certain circumstances, be operated in the way alluded to in the last part of your last answer. Now why do you use this phrase, "if the device were practically adapted to be operated in that way?" Is it not a fact that the Reynolds device is practically so adapted?

A. I do not think that the Reynolds device is practically so adapted, and I have not so stated.

(The answer is objected to as not being responsive to the question.)

X Q. 65. I repeat cross-question '64."

A. I repeat my answer.

Re-examination:

R. Q. 1. In the answer given to the cross-interrogatories of the complainant, what do you mean when you say you are not a practical mechanic?

A. I meant to convey that I am not an artisan nor workman, and not particularly skilled in the manual handling of tools.

R. Q. 2. Do you consider yourself sufficiently well skilled in the science of mechanism to be able to direct the construction of a working machine or a model according to the description of any patent with which you are familiar or have seen, and to know
99 whether the workman who has used the tools in the construction has properly done his work?

A. I do.

R. Q. 3. In speaking, in your direct examination, of the difference between the Reynolds drier and the Grier drier in regard to the structure of their outer walls and trays respectively, you say there is a difference, but that might be regarded as colorable, or words to that effect. Please explain what you mean by the expression "colorable," and say whether you cannot, in the Grier drier, remove the trays or their contents, any or all of them, from any section of the stack without destroying the stack itself?

A. I meant by "colorable" that the change was one of form and not of substance, the devices being, so far as I saw in the respect named, substantially identical. It is true that the trays proper may be removed from the frames in any one or more of the sections of the Grier device, but I see no object in doing so.

R. Q. 4. If you were to take all the trays out of the Grier stack would not the stack stand just the same whether the trays were in or out of it?

A. Undoubtedly.

(Defendant's counsel offers in evidence model, Defendant's Exhibit "5.")

R. Q. 5. Please look at model, Defendant's Exhibit "5,"
100 and say whether or not it is constructed in strict accordance with the specifications, drawings, and claims of Grier's letters patent No. 221,056?

A. Yes; it seems to be.

R. Q. 6. Can you or not build up the stack of the Grier drier before putting any of the trays therein; and can you or not, as fast as trays are freshly filled with fruit, place them in any section or sections of the stack, whether bottom, top, or middle?

A. Yes; that is possible.

R. Q. 7. Suppose one is drying, with Grier's machine, different kinds of fruits, some requiring a longer and more intense heat than others, would it not be found a convenience to insert the tray in different sections of the stack or remove or change them with a view of adjusting the heat to the nature of the fruit to be dried?

A. The Grier device affords facility for inserting in or removing a tray from any part of the stack, which feature, I imagine, would be of importance under the circumstances you name.

R. Q. 8. Please explain what you mean by the term "broadly" and "broad claim" used by you in your answers to questions regarding the fourth claim of Reynolds' patent.

A. A "broad claim" is such as may be made by the pioneer in any particular mode of operation—as, for instance, were Reynolds or Grier the first to build up a drier by successively inserting trays

at the bottom, such party would be entitled to a "broad
101 claim" therefor, and any device in which that feature was used would be subordinate to the claim.

R. Q. 9. You have been asked whether there are not functional advantages in a drier the outer walls of which are built up with the frames of the several trays over a drier whose outer walls are fixed permanent and continuous, in the fact that the former can be built higher than first proposed by the maker or manipulator, whereas the latter cannot be so increased in its height. Could you or not just as well increase the height of a continuous wall by adding thereto as by putting on additional trays?

A. I see no difficulty in the way of building either to any height which might be practically desired.

(Defendant's counsel here offers in evidence model, Defendant's Exhibit No. "6.")

R. Q. 10. Will you examine model, Exhibit No. "6," just offered in evidence, and say whether or not it is built in strict accordance with the specifications, drawings, and claims of the Reynolds patent No. 190,368?

A. It is, with the exception that it has not the swivel-connection of the Reynolds fifth claim.

(The reception of this model in evidence is objected to, as is also the last answer of the witness. The model does not appear to rep-
resent any particular construction shown in any one of the
102 figures of the drawing, nor does it appear to fully correspond with the invention shown, described, and claimed in the Reynolds patent.)

R. Q. 11. Will a drier built according to the drawings, claims, and specifications of the Reynolds patent No. 190, 368, in your judgment, by any possibility admit of opening the wall of the drier elsewhere than at the bottom without going outside of any hints or suggestions contained in said specifications and drawings?

A. There is nothing in the specifications to show that the inventor contemplated the opening of the stack for the inspection or removal of an intermediate tray; and the drawings contradict, as I think, the assumption that it is feasible.

Recross-examination:

R. X Q. 1. Suppose the fourth claim in the Reynolds patent to be good and valid as written; on a question of infringement of that claim would it make any difference whether or not the infringing device possessed functional advantages, such as the inspection and removal of trays, over the Reynolds device?

A. It would not, assuming that there was an infringement.

R. X Q. 2. Will you compare the handles on the trays shown on Defendant's Exhibit No. "6" with those shown in the Reynolds patent and state whether or not they are similar each to the other?

103 A. Yes; they differ. In the Reynolds patent the handles are shown as attached similar to those of a milk can in Ex-

hibit (Def't's) No. "6." They consist of loops attached to the sides of the trays.

R. D. WILLIAMS.

Sworn to and subscribed before me this eleventh day of May, A. D. 1880.

S. RODMOND SMITH, *Examiner.*

The further examination of defendant's witnesses is adjourned until to-morrow morning at nine o'clock.

S. RODMOND SMITH, *Examiner.*

MAY 12TH, 1880—9 o'clock a. m.

Present: The counsel and papers, models, and exhibits aforesaid.

104 THOMAS H. LATIMER, a witness on behalf of the defendant, being duly sworn, deposes and says:

My name is Thomas H. Latimer; aged 32 years; residence, 1228 West Front street, Wilmington, Delaware; occupation, machinist.

Q. 1. How long have you pursued that occupation?

A. Almost sixteen years; from the 5th day of July, 1864. I learned my business and served my time *at* Pusey, Jones and Company. I have been all my time with that firm, except about from 8 to 9 months. Four years, during the latter part of my service with that firm, I was foreman of the machine shops of that concern. This firm is engaged in the manufacturing of almost all kinds of machinery.

Q. 2. From your experience and training as a machinist, do you consider yourself an expert in machinery?

A. I consider myself an expert in machinery so far that I am able to build any kind of machine from the drawings which may be given to me. I mean anything which might have come into Pusey, Jones and Company's machine shops.

Q. 3. Have you ever seen the working drawings of any kind of a machine or mechanical contrivance which you could not construct?

A. To my recollection, I never have.

Q. 4. Will you look at the drawings, claims, and the specifications of the Asa Quincy Reynolds patent, Complainant's Exhibit "A, F. W. H., N. P.," No. 190,368, and also look at models, Complain-

105 ant's Exhibit C, F. W. H., N. P., and model, Defendant's Exhibit No. 6, and say whether, if building a machine or drier in accordance with the specifications, drawings, and claims of the Reynolds patent, the product of your labor would resemble either; and, if either, which of said models?

(The counsel for the complainant desires noted upon the record that counsel for the defendant here reads the claims of the Reynolds patent to the witness, and says to him that the model, Defendant's Exhibit No. 6, "shows no swivel," and inquires of him where the top plate in the model is; to all which, being an instruction of the witness, exception is taken and objection made.)

A. Well, if I was building a machine, and was confined to build like either one or the other, with no alterations to suit my own ideas from the machine, on account of the simplicity of the machine and my own ideas, I believe I would build like the Exhibit No. 6.

Q. 5. Suppsse I should order you to build for me a fruit drier to set over a cook stove strictly in accordance with the specifications, claims, and drawings contained in the Reynolds letters patent without modification or deviation, what would your work when completed resemble?

A. Well, I believe it would resemble that (witness points to defendant's model, Exhibit No. 6), as it explains that as fully as

106 you can expect.

Q. 6. Would it or not be the same if you were to build a drier to set over a furnace going now strictly in accordance with said Reynolds patent?

A. It would be the same.

Q. 7. Does Defendant's Exhibit No. 6—the tin model—correspond or not with the description, specifications, claims, and drawings of the Reynolds patent?

A. It does in general outline; but there is one thing I see deficient in it. I take the machine to be a contrivance to dry fruit by heated air, and I understand from the drawings and specifications before me that it is to be set right down on a cook stove; therefore it must have means for admitting air to become heated, which this has not. Upon a careful examination of the model and specifications I withdraw the exception above referred to.

Q. 8. Do you find in the tin model aforesaid the crane "A" mentioned in the specification with the rope or chain "B" running over it?

A. Yes; there is a crane, "A," and the rope or chain "B" running over it.

Q. 9. Is or not that rope controlled by the windlass "O" in figure one?

107 A. Yes, sir.

Q. 10. Do you or not find in the model cross-bars corresponding to "C" in figure 1?

A. Yes, sir.

Q. 11. Do you or not find ropes or chains "G" depending from cross-bar "C" in said model; and do or not these ropes or chains suspend or hold up the drier through the medium of the handles, "H H," &c., upon each tray?

A. They hold them up through the medium of the handles "H H" upon the bottom tray.

Q. 12. Do you or not find in the tin model, Defendant's Exhibit No. 6, any swivel connection at the crane?

A. I do not; and in this respect it differs from the drawings and specifications.

Q. 13. With this exception, then, do you or not find in said tin model a faithful representation of the drier described in Reynolds' specifications?

A. No, sir; I do not find a faithful representation. There is no

pulley at the end of the jib or crane for the rope to pass over, neither is there any at the mast of the crane where the rope turns downward; nor is there a windlass according to the specifications, on account of the pawl-wheel or ratchet-wheel being on the outer end of the drum shaft; it should be next to the mast, according to the drawing; neither is there a pawl to engage with the ratchet-wheel to prevent running down when the operator is putting in a new tray; neither has the drum an outward support to support the shaft in resisting the strain, and it is minus a handle also. With those exceptions, I believe the general construction is like the drawing and specifications referred to. In the model the crane appears to be attached to the drier, whereas in the drawings it is independent of the drier entirely.

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Q. 14. Look, now, at Defendant's Exhibit No. "5," and at the drawings, specifications, and claims of the Grier patent, No. 221,056, and say whether or not the model, Defendant's Exhibit No. "5," fairly and faithfully represents the machine described in letters patent No. 221,056?

A. Well, I believe that it represents it—that is, the general construction and outlines compare with the drawings and specifications. It is worked up very close to the specifications and drawings, with the exception that the model shows a stop to prevent the tray going too far back when a fresh tray is inserted, which is not shown in said drawings and specifications.

Q. 15. How does the Grier machine operate for the purpose of opening the wall of the drier for the reception of a tray of fresh fruit; is it by a suspending device or is it by a lifting device?

A. I should say, undoubtedly, by a lifting device, and not by a suspending device. According to my opinion, it is by a lifting device.

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Q. 16. Do you find any suspending device whatever in Grier's machine?

A. No, sir; I can't say that I do; I should term it all lifting.

Q. 17. Can you or not in the Grier machine, by means of its pawl-and-ratchet contrivance, lift the top section of the wall, leaving the lower part, or any number of sections from top to bottom, without lifting the bottom section?

A. Yes, sir; you can lift the cover alone, or one or more of the boxes, or all, with or without lifting the bottom section.

Q. 18. In the Reynolds machine, constructed in strict accordance with the descriptions, specifications, claims, and drawings in the letters patent, can you suspend any one or more, leaving one or more sections at the bottom, or must you suspend the entire stack, with all its sections, upon the bottom section, in order to insert a fresh tray?

(The question is objected to, because it is leading in form and of such a form as to tend to the confusion of the witness.)

A. Well, you can leave one or more at the bottom; you can lift one or more according to the drawing, figure "1," or to figure "2"; however, the distance between the jib of the crane and the cross-bar

is not great enough to permit any of the intermediate trays
110 to be lifted without lifting the bottom tray. In lifting the trays of the Reynolds drier, in order to insert a fresh one in the bottom, there is no means provided to lift the top plate "F" while taking out the top large tray; therefore the plate "F" would have to be lifted out by hand. Mr. Grier provides for lifting the top while taking out the top tray. The same arrangement in that patent permits the removal of the top tray, at the same time lifting all of the trays, so as to permit the insertion of a fresh tray at the bottom.

Q. 19. Can you or not in the Grier machine at will take out the bottom section or tray, leave the one immediately above it, take out the third, leave the one above it, and so on throughout the stack?

A. Yes, sir.

Q. 20. Can that be done in a machine constructed according to the Reynolds patent?

A. In a machine constructed according to the Reynolds drawings and specifications it cannot be done.

Q. 21. Suppose you have occasion to draw water from a well, and were to do so by means of a bucket and chain passing over a pulley fixed in the jib of a crane, would you consider that mode of drawing the water identical or equivalent with the drawing of the water by means of a common log pump or chain pump?

A. Well, I would not term it equivalent with drawing of water by the old log pump; I won't say that it is equivalent to
111 drawing water by the chain pump, though it bears a similarity to it; my reason is that in the last case and in the first case supposed by the question the buckets have to travel clear to the top by the use of a pulley.

Q. 22. Do you consider the removal of a ton or other quantity of coal or other material from one point to another by horse and cart the same or the equivalent of removing said coal or material by locomotive on railroad track?

A. Well, I should say it was employing a different means of doing the same work.

Q. 23. Do you consider a suspension bridge and an abutment bridge the same or equivalent, or are they different altogether in principle?

A. They are different in principle, as one is suspended and the other is held up by abutments underneath.

Q. 24. Is there or not as much difference between the suspending device of the Reynolds patent, by means of crane, cord, and pulleys, &c., and the pawl-and-ratchet device for elevating the sections of the drier of the Grier machine as there is between the log pump and the crane and bucket or sweep and bucket device for drawing water?

A. Well, I think there is.

Cross-examination:

X Q. 1. I understand you to say that you are a practical
112 mechanic and now engaged at your trade. Am I correct?

A. Yes, sir.

X Q. 2. You do not state that you have ever built or operated any fruit driers. Have you ever done so?

A. No, sir.

X Q. 3. Have you ever seen any in operation or inspected any patents for fruit driers before to-day?

A. No, sir; I never saw any to know what it was.

X Q. 4. Having the Reynolds patent handed you, could you, as a practical mechanic, construct a fruit drier which would operate in accordance with the explanation in the patent?

A. I could build one of them.

X Q. 5. Referring to figure "2" of the Reynolds drawing, do you find shown any small trays upon top of the large trays, as in the other figures?

A. No, sir.

X Q. 6. In figures "1" and "3" of this Reynolds drawing do you find any handles on the upper and smaller trays?

A. Yes, sir; I do.

X Q. 7. Do you find any such in Defendant's Exhibit No. "6?"

A. No, sir; there is not any.

X Q. 8. As a practical mechanic would you think it necessary to use the four ropes shown in the Reynolds drawing, figure
113 "3," and Complainant's Exhibit "6," in order to elevate the bottom tray for the purpose of inserting a fresh tray beneath the stack, or would two ropes answer to do the elevating?

A. Oh, no; it would not balance with two ropes.

X Q. 9. Could you elevate the lower tray with two ropes instead of four ropes?

A. Well, that question is to the lower tray alone, and not the others above. In answer to that I would say yes, as you might elevate a pan of water with two handles. I mean that you could elevate the lower trays with two ropes if the other trays were removed.

X Q. 10. Suppose you have a stack of trays, say five high, arranged as shown in figure "2" of the Reynolds patent, with the lifting contrivance in place, and you should pull on the rope "B," would the bottom tray come up, and could you then insert a fresh tray at the bottom?

A. I should say it would not be practicable; it would be top-heavy, as the drawing shows but two ropes.

X Q. 11. Still you could with figure "2" have only the two ropes to elevate the tray. Could it not be elevated with these two ropes?

A. Take the other four trays from the top of it and it could.

X Q. 12. But I mean to leave the four trays in place; and, as explaining my meaning better, we will suppose that the stack
114 of five trays is balanced, either by weights or otherwise.

A. Well, if you put weights at the bottom below the point of attachment of the rope to counterbalance the top-heaviness, then you can raise it.

X Q. 13. Then how will you go to work to introduce a sixth tray beneath the stack?

A. Well, having those weights there, it would be impracticable;

those weights could be put on there in such a manner as to balance, but it would be impracticable to balance so that the sixth tray could be inserted.

X Q. 14. Well, take your weights away, and put on the four ropes; then how would you do?

A. If those four ropes were put on, as is shown in figure "3" of the drawings—that is, equidistant apart—they could be raised as the drawing and specification sets forth.

X Q. 15. With a stack of six trays, how will you manage to elevate the third tray in the stack, leaving the other three over the heater?

A. According to the drawing and the distances between each point given, and making no change from the drawing, you could not elevate the third tray, leaving two others under it.

X Q. 16. I want to find out just how you would manage to do that with the stack of six trays?

A. I believe I just stated that you couldn't do it.

X Q. 17. Suppose you should run the chains through the
115 handles on the third tray and bend them over, what would you do then in order to hoist up the third tray and those above it?

A. The supposition is not in accordance with my idea of what the drawings would permit or what is intended thereby.

X Q. 18. Do I understand you to say that this thing could not be done, or do you mean that in a machine constructed in accordance with the drawing it could be done if desired?

A. It could be done, but it would be very impracticable, and is not what the drawing intended should be done in case it was desired to lift it.

X Q. 19. Referring to Complainant's Exhibit "C," must you or not elevate the bottom tray of the stack when you insert a fresh tray at the bottom?

A. When you want to get a fresh tray underneath the bottom tray you have got to elevate the bottom tray high enough to admit of a fresh one.

X Q. 20. Is the same thing true of Defendant's Exhibit No. "6" and No. "5" and the Reynolds patent and the Grier patent?

A. It is true that to insert a fresh tray you have got to elevate the others.

X Q. 21. Is the stop referred to by you when speaking of Defendant's Exhibit No. "5" so high as to reach above the first tray at the bottom, and is it capable of stopping any but the lowermost tray?

116 A. It is the proper height to do what is intended to be done to stop the lower tray; it is not intended to stop any but the lowermost tray, but is intended to stop it at the proper place when being inserted.

X Q. 22. Would you regard that machine as practical without that stop?

A. Yes, sir; I believe it would be.

X Q. 23. Now will you explain what you mean by a suspending device?

A. A device to suspend something that is beneath it.

X Q. 24. Do you mean beneath the whole of it, or beneath the point of support?

A. I mean the weight to be underneath the means of suspension, as a weight is underneath a crane, or as a bridge is underneath a wire rope which suspends it across a stream.

X Q. 25. In the Grier patent, is the first or bottom tray shown to be above or below the boxes which support the shaft "H" upon the framed timbers?

A. The bottom tray is below the level of the boxes which support the shaft "H."

X Q. 26. Then when you start to raise this tray, if I understand your definition of a suspending device, it is suspended from the boxes through the medium of the rack and pinion and pawls. Am I correct?

A. No, sir; it is not correct; I would term this a lifting device, as the foot of a hydraulic jack is a lifting device to raise
117 a heavy weight.

X Q. 27. Then your distinction is in the location of the points of attachment, they being in the one case directly underneath a crane or similar supporting device, and in the other at one side of such supporting device?

A. My distinction is to lift either from the sides or the bottom, and a suspending device is to suspend by means of a chain or rope over the top.

X Q. 28. In such a suspending device could you not employ a solid rod or wooden post just as well as a chain?

A. In raising or suspending, no, as neither an iron rod -or a wooden post would be practicable, for want of flexibility, to pass over a pulley for lifting purposes.

X Q. 29. Suppose the ropes "G" in the Reynolds patent were replaced by sticks or rods of iron, would that device then be a suspending device or a lifting device, according to your understanding of the matter?

A. To replace the ropes or chain "G" with an iron rod would be in that case a suspending device, but in the case of the rope "B" it would not answer the purpose to substitute for it a rod of iron or wood.

X Q. 30. Does the drawing figure "1" of said patent, at "G," represent to your eye a rod, a rope, or a chain?

A. They would represent to my eye a rod.

118 X Q. 31. How is it with respect to figure "2?"

A. It would represent there a chain to my eye.

X Q. 32. In respect to figure "3," I call your attention to the manner in which "G" is fastened to the cross-bars, and ask what "G" represents in that figure?

A. The fastening is about all you can form a conclusion from. It bears a resemblance to an iron rod, except where it is fastened to the cross-bar and tray. There it appears to be tied to each, and I suppose it to be a rope on that account.

X Q. 33. Then, if you were constructing a machine in accordance

with the Reynolds patent, would you feel at liberty to use either rods of iron, sticks of wood, or ropes in order to transmit the lifting force to the lower tray, and would it make any difference which you employed, so far as lifting the tray is concerned?

A. I would not feel at liberty to use either rods of iron or sticks of wood (as it would make rather an unyielding and an unwieldy affair) as a means of transmitting the suspending power to the lower tray. My choice would be either ropes or chains. Chains would be preferable. So far as lifting the tray is concerned, it would not make any difference which you employed; but if the operation is to be continuous I should prefer decidedly a rope or chain.

X Q. 34. In respect to the drawing of water and transportation of material, to which you have alluded, will you explain
119 what you meant by "equivalent?"

A. What I would term "equivalent" is equality. When I speak of it I mean one is equal to the other, and each similar to the other, as both buckets travel to the top of the well to discharge the water.

X Q. 35. Then would you regard any two machines calculated to do the same work, and employing similar or equivalent means to do that work, as equivalents of each other or not?

A. I would answer no; I would not consider them always equal to each other, as I do not consider the machine represented by the tin model, Exhibit No. "6," equal to the Defendant's Exhibit No. "5."

X Q. 36. Which is the simpler machine of the two?

A. The plainest machine of the two is that represented by the tin model; it is the simplest in its arrangement.

Redirect examination:

Q. 1. Does it make any difference in the Grier machine whether you have the boxes of the worm shaft "K" placed above or below the level of the bottom tray?

A. Not any that I can see at present.

Q. 2. Whether those boxes and the worm shaft be placed above or below the level of the bottom tray, do not the pawls, which are the points of support, operate from below and push the trays up?
120 A. They do.

Q. 3. Do you or not consider the suspending device described in the Reynolds patent as an equivalent of the lifting device described in the Grier patent, or are they different?

A. They are different—very much so; no, sir; I can't consider them equivalents of each other.

Q. 4. Do they operate differently and by different means?

A. I think that question has been answered; but they do operate differently and by different means.

Recross-examination:

R. Q. 1. Could you take the pawls from off the Grier machine and replace them by depending hooks, so as to pull the bottom tray up

instead of pushing it up; and would a machine so constructed be equivalent to the Grier drier or the Reynolds drier, or which?

A. It could be done by means of hooks, so as to lift the trays up, but I do not think it would be an equivalent to the pawls, as the pawls, when the strain comes on them, cause them to hold themselves in, and they are simpler. I don't think it would be an equivalent to the Grier machine, nor either to the Reynolds machine, but the alteration would make a machine superior to the Reynolds.

THOMAS H. LATIMER.

Sworn to and subscribed before me this twelfth day of May, A. D. 1880.

S. RODMOND SMITH,
Examiner.

121 In the Circuit Court of the United States for the District of Delaware. In Equity.

JOHN F. WILT *vs.* GEORGE S. GRIER.

DISTRICT OF DELAWARE, *ss:*

I, S. Rodmond Smith, standing examiner, duly appointed by the circuit court of the United States for the district of Delaware, do hereby certify that the several witnesses named in the foregoing depositions appeared before me on the days therein named, and, having been by me duly sworn, gave said testimony, which was reduced to writing by me, and subscribed their names to their respective depositions.

I further certify that Worth Osgood, Esq., appeared on said examination as counsel for the complainant and George P. Fisher, Esq., for the defendant.

Wilmington, Del., May 12, 1880.

S. RODMOND SMITH,
Standing Examiner.

122 *Defendant's Exhibits.*

DEFENDANT'S EXHIBIT No. 1. S. R. Smith, Ex'r.

(2–175.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of the letters patent granted Joel Orlando Button September 22nd, 1874, No. 155,286, for improvement in fruit driers.

In testimony whereof, I, W. H. Doolittle, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this seventeenth day of April, in the year of our Lord one thousand eight hundred and eighty, and of the Independence of the United States the one hundred and fourth.

[SEAL.] W. H. DOOLITTLE,
Acting Commissioner.

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2 Sheets--Sheet 2.

J. O. BUTTON.

Fruit-Driers.

No. 155,286. Patented Sept. 22, 1874.

Fig. 6.

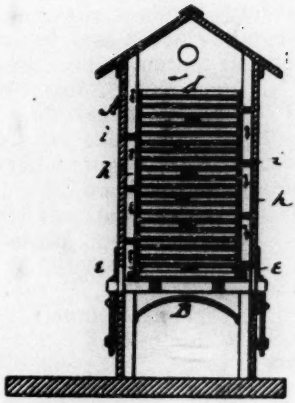
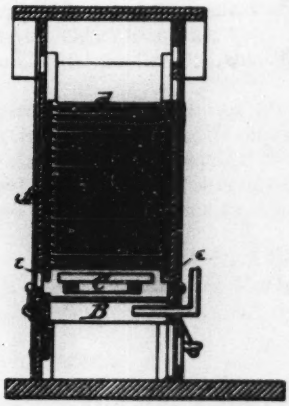


Fig. 7.



No 148 Grier } p. 126. Nutt.

Witnesses;
L. P. Himer.
C. L. Everts.

Inventor,
J. Orlando Button
By J. M. Rubins,
Attorney.

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123 No. 155,286.

THE UNITED STATES OF AMERICA.

Picture.

To all to whom these presents shall come:

Whereas Joel Orlando Button, of Hopkins, Michigan, has presented to the Commissioner of Patents a petition praying for the grant of letters patent for an alleged new and useful improvement in fruit driers, a description of which invention is contained in the specification, of which a copy is hereunto annexed and made a part hereof, and has complied with the various requirements of law in such cases made and provided; and whereas, upon due examination made, the said claimant is adjudged to be justly entitled to a patent under the law:

Now, therefore, these letters patent are to grant unto the said Joel Orlando Button, his heirs or assigns, for the term of seventeen years from the twenty-second day of September, one thousand eight hundred and seventy-four, the exclusive right to make, use, and vend the said invention throughout the United States and the Territories thereof.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed, at the city of Wash-
124 ington, this twenty-second day of September, in the year of our Lord one thousand eight hundred and seventy-four, and of the Independence of the United States of America the ninety-ninth.

[SEAL.] C. DELANO,
Secretary of the Interior.

Countersigned:
J. M. THACHER,
Acting Commissioner of Patents.

(Here follow diagrams marked pp. 125 & 126.)

127 UNITED STATES PATENT OFFICE.

JOEL ORLANDO BUTTON, of Hopkins, Michigan.

Improvement in Fruit-Driers.

Specification forming part of Letters Patent No. 155,286, dated September 22, 1874; application filed July 20, 1874.

To all whom it may concern:

Be it known that I, Joel Orlando Button, of Hopkins, in the county of Allegan and State of Michigan, have invented certain new and useful improvements in fruit and vegetable driers; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, forming part of this specification, and in which—

Figure 1 is a front view, Fig. 2 a side elevation, and Fig. 3 a rear view, of my drier; Figs. 4 and 5 are horizontal sections, and Figs. 6 and 7 vertical sections, of the same.

A represents the shell of the drier, provided with a suitable hot-air furnace in the bottom, over which is an arch, B, of sheet iron. This arch is perforated, as shown in Figs. 6 and 7, to mellow the heated air before coming in contact with the fruit nearest to the heater. Above this arch, within the drier, is a frame, C, for raising the racks, the ends of said frame projecting through the sides of the drier, and on the outside thereof provided with a cross-bar, D. To this cross-bar are attached wings E, for closing the openings in the sides of the drier as the frame C moves up and down. On each side of the drier are pivoted two cam-levers, G G, for raising the frame C, which levers are connected by a rod, *a*, and a handle or bail, *b*, is attached to one lever on each side to insure uniformity in their movement. *d d* represent the racks, which rest upon each other, and are made with openings in their sides to let the heated air pass through them. *e e* are spring-catches—one in each corner—for supporting the racks after they are elevated. These catches move back while a rack is being elevated, and as soon as the rack passes they spring out and support the rack while the frame is lowered for another rack. The racks *d* do not extend to the sides of the drier, but leave a hot-air space, *h*, on two sides thereof, and in these spaces are alternately placed stops *i i*, which compel the heated air to take a zigzag course through the racks from side to side until it reaches the top. Suitable ventilators or registers are provided at top and bottom of the drier, to be adjusted to suit the necessity of the current. The fruit in the racks prevents the heated air from rising directly upward; consequently a current is formed through the racks and up the sides, as described. The radiating heat from the main current is sufficient to dry the intervening racks.

By this arrangement all the properties of the fruit, which would otherwise be lost by evaporation, are retained by the drier fruit above absorbing that which rises from the green fruit below. The heated air as it leaves the top rack is perfectly dry, and leaves the fruit perfectly natural, except that the water has been taken out.

This drier is simple in construction, durable, and reliable, and not liable to get out of order, and easily operated.

The racks are inserted through a door, H, immediately above the frame C, one by one, and each one separately elevated by the levers G till it is held by the catches *e e*, and the next rack when it is elevated raises the first one, and so on until the racks can be taken out, one by one, at the top through the door I.

In connection with the furnace is a pointer, *x*, operated by the expansion of a rod to indicate the degree of heat.

Having thus fully described my invention, what I claim as new, and desire to secure by letters patent, is—

1. The spring-catches *e e*, elevating-frame C, cross-head D, and cam-levers G G, in combination, substantially as and for the purpose set forth.

2. The cross-head D, guided in slots in the house or drier, and

having the wings E E, in combination with the cam-levers G G, and bail or handle for operating the latter, substantially as and for the purpose set forth.

In witness that I claim the foregoing I have hereunto set my hand this 16th day of June, 1874.

J. ORLANDO BUTTON.

In presence of—
E. W. PICKETT.
ANN R. PICKETT.

128 DEFENDANT'S EXHIBIT No. 2. S. R. Smith, Ex'r.

(2–175.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of the letters patent granted Okey and Lehr October 11th, 1870, No. 108,289, for improvement in fruit driers.

In testimony whereof I, W. H. Doolittle, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this seventeenth day of April, in the year of our Lord one thousand eight hundred and eighty, and of the Independence of the United States the one hundred and fourth.

[SEAL.] W. H. DOOLITTLE,
Acting Commissioner.

129 No. 108,289.

(2–155.)

THE UNITED STATES OF AMERICA.

Picture.

To all to whom these letters patent shall come:

Whereas Joseph B. Okey, of Indianapolis, Indiana, has alleged that he has invented a new and useful improvement in fruit driers (he having assigned one-half of his right, title, and interest in said improvement to Ferdinand A. Lehr), and has made oath that he is a citizen of the United States; that he verily believes he is the original and first inventor or discoverer of the said improvement, and that the same hath not, to his knowledge and belief, been previously known or used; has paid into the Treasury of the United States the sum of thirty-five dollars, and presented a petition to the Commissioner of Patents praying that a patent may be issued therefor:

These are, therefore, to grant to the said Okey and Lehr, their executors, administrators, or assigns, for the term of seventeen years from the eleventh day of October, one thousand eight hundred and seventy, the full and exclusive right and liberty of making, using, and vending to others to be used the said improvement, a descrip-

tion whereof is given in the annexed schedule and made a part of these presents.

130 In testimony whereof I have caused these letters to be made patent and the seal of the Patent Office to be hereunto affixed.

Given under my hand, at the city of Washington, this eleventh day of October, in the year of our Lord one thousand eight hundred and seventy, and of the Independence of the United States of America the ninety-fifth.

[SEAL.]

W. T. OTTO,
Acting Secretary of the Interior.

Countersigned and sealed with the seal of the Patent Office.
SAM'L A. DUNCAN,
Acting Commissioner of Patents.

(Here follows diagram marked p. 131.)

132 UNITED STATES PATENT OFFICE.

JOSEPH B. OKEY, of Indianapolis, Indiana, assignor of one-half his right to Ferdinand A. Lehr.

Letters Patent No. 108,289, dated October 11, 1870.

Improvement in Fruit-Driers.

The schedule referred to in these letters patent and making part of the same.

I, Joseph B. Okey, of Indianapolis, in the county of Marion and State of Indiana, have invented certain improvements in "fruit-driers," of which the following is a description:

Nature and objects of the invention.

This invention is constructed upon scientific principles—*i. e.*, with a base-chamber for collecting and rarefying atmospheric air (when the device is placed on the top of a cook-stove or anything equivalent thereto) and thence causing this rarefied or heated air to ascend through all the departments containing fruit that is to be dried, compelling it to pass over the entire surface of said fruit in eccentric course until it emerges from the top of the machine laden with moisture obtained while in contact with the fruit.

This drier belongs to the supplemental class, and, while small and of little cost, it yet has a wonderful capacity for drying fruits of every description.

Description of the accompanying drawing.

Figure 1 is a perspective view of my fruit-drier.

Figure 2 is a vertical view of the cover or top of my invention, the lid being inverted in this view.

Figure 3 is the base of the drier isolated from the balance of the machine.

Figure 4 is a vertical plan view of an isolated fruit-tray or one of the sections for holding the fruit, and

Figure 5 is a longitudinal section of two isolated fruit-trays, Fig. 4.

General description.

A is the base section of my fruit-drier. It must be made of sheet metal, as shown in Fig. 3, about four inches deep and twelve inches wide by eighteen inches in length.

Its upper edge should be constructed so that it will fit snugly in the recess provided for it in the lower edge of the first fruit-tray, B, Figs. 4 and 5.

It must likewise be provided with a narrow slot, C, in each of its long sides, as shown in Fig. 3, with a slide-cover, D, Fig. 1, for each slot.

By the use of these slide-covers the draught of air is regulated through the drier, from bottom to top.

When this base section, A, is joined to the other parts of the drier it serves as a rarefying-chamber for heating the atmospheric air, which is thence forced upward in a zigzag direction and in contact with all the fruit in the machine.

The sections B are so constructed as to admit of their indefinite duplication, permitting the use of as many in one machine as desired, though six of these sectional trays make a very practical drier.

The lower edge of each tray receives the upper edge of the one it sits upon, a recess being made for this purpose.

By reference to Figs. 4 and 5 it will be seen that a large throat, O, is left in one end of every fruit-tray, B, a broad slat forming one side of this throat and the end of the tray forming the other.

The slats *i i* form the floor of these trays for holding up the fruit. They can be made of any suitable material—wood, for example—and should be very thin and about three-eighths of an inch in width. They must be so close together that the trays will hold the smallest fruits that are dried.

When filling these trays B with fruit care must be taken that the throat O is left open, and when filled the first one is placed upon the sheet-iron base A. The next one is placed on it, the next one on that, and so on until all the filled trays are in position, when the top T is placed upon the last one.

In placing these trays upon each other you must be particular to alternate the throat ends O, placing the throat first at one end and then at the other, on up to the last one.

When in position there should be about a half inch space between the top surface of the fruit in one of these trays B and the bottom of the slats *i* of the next tray above it, and so it should be in all the trays.

Then, with the openings O alternated as directed above, a flue is formed for the passage of hot air from the base A in a zigzag course and in a broad sheet or current over the fruit in every tray until its escape at one of the ventilators V in the top.

Although the two sectional trays shown in Fig. 5 are separated from each other, yet they approximate their working position near enough to convey a correct idea of the current of hot air in observing the course and direction of the arrows in every instance.

The arrow in the partially-opened exit-valve V, in Fig. 1, shows the hot air as escaping from the funnel ventilator, the sliding door or cut-off being slightly open.

Two of these ventilators V are placed at the top, though but one is really needed. They may be made of any width, the whole width of the drier being better than any narrower.

The small ventilator S is only used when a very light draught of air is needed, as when the fruit is almost sufficiently dried.

133 I do not claim, broadly, the passage of hot air over and under each fruit-tray, but

I claim—

1. The formation of a ventilating throat within the tray itself, as shown, and the multiplication of these indefinitely at alternate ends, as and for the purposes shown.

2. The combination and arrangement of a ventilating base section with the throated trays and graduated openings in the top of my fruit-drier, all as shown, and for the purposes described in my specification.

JOSEPH B. OKEY.

Witnesses:
E. T. BUSSELL.
LATTA BUSSELL.

134 DEFENDANT'S EXHIBIT No. 3. S. R. Smith, Ex'r.

(2–175.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of the letters patent granted Adam Snyder July 11th, 1865, No. 48733, for fruit driers.

In testimony whereof I, W. H. Doolittle, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this seventeenth day of April, in the year of our Lord one thousand eight hundred and eighty, and of the Independence of the United States the one hundred and fourth.

[SEAL.] W. H. DOOLITTLE,
Acting Commissioner.

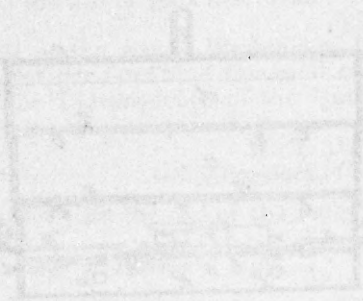
135 No. 48,733.

UNITED STATES OF AMERICA.

Picture.

To all to whom these letters patent shall come:

Whereas Adam Snyder, of Clyde, Ohio, has alleged that he has invented a new and useful fruit drier, which he states has not been

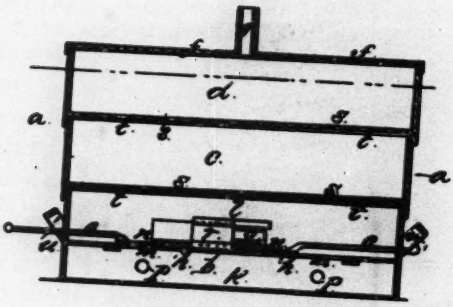


A. Snyder,

Fruit Dryer.

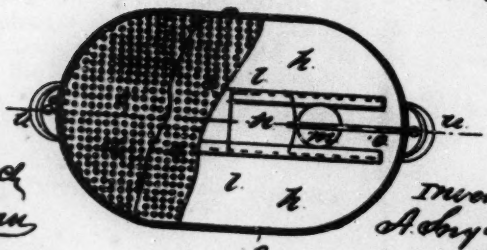
No. 48,733. Patented July 11, 1865.

Fig. 1.



No. 148. Grier v. Wiet. p 13

Fig. 2.



Witnesses
Thos. Tussch
Jno. Crewes

Inventor.
A. Snyder
per Munn & Co
Attorneys.

known or used before his application; has made oath that he is a citizen of the United States; that he does verily believe that he is the original and first inventor or discoverer of the said invention, and that the same hath not, to the best of his knowledge and belief, been previously known or used; has paid into the Treasury of the United States the sum of thirty-five dollars, and presented a petition to the Commissioner of Patents signifying a desire of obtaining an exclusive property in the said invention, and praying that a patent may be granted for that purpose:

These are, therefore, to grant, according to law, to the said Adam Snyder, his heirs, administrators, or assigns, for the term of seventeen years from the eleventh day of July, one thousand eight hundred and sixty-five, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used the said invention, a description whereof is given in the words of the said Adam Snyder in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof I have caused these letters to be
136 made patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand, at the city of Washington, this eleventh day of July, in the year of our Lord one thousand eight hundred and sixty-five, and of the Independence of the United States of America the ninetieth.

[SEAL.]

W. T. OTTO,
Acting Secretary of the Interior.

Countersigned and sealed with the seal of the Patent Office:

D. P. HOLLOWAY,
Commissioner of Patents.

(Here follows diagram marked p. 137.)

138 *The Schedule Referred to in these Letters Patent and Making Part of the Same.*

To all whom it may concern:

Be it known that I, A. Snyder, of Clyde, in the county of Sandusky and State of Ohio, have invented a new and useful improvement in "apparatus for drying fruits;" and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification:

The present invention consists in forming an apparatus for drying fruits—such as apples, pears, peaches, &c.—of a series of two or more chambers or receptacles placed one above the other, and with communication between each and every one, the lower one of which is placed or fitted upon any ordinary cooking or other stove, and has in its upper portion or plate one or more apertures, through which the heat from the stove can pass upward to the next chamber above through perforations in its bottom plate, in which chamber the fruit

to be dried is placed, and so on in a similar manner through any desired number of fruit-chambers. To the lower chamber, or the one in direct communication with the stove, cold air is admitted through any suitable aperture communicating with the external air, and, becoming heated, also passes up through the fruit-chambers, as described, the admission of cold air to the chamber and the passage of heat therefrom to the fruit-receptacles being regulated at pleasure by means of any suitably-arranged slides for opening or closing the respective inlet or exit apertures; and to still further regulate the degree of heat of the hot air cold air may be admitted to the same previous to its entrance into the fruit-chambers, and after it has left the heated chamber of the apparatus directly over the stove, through any suitable aperture or apertures communicating with a properly-arranged chamber between the two.

In accompanying plate of drawings my improvement is illustrated, figure 1 being a central longitudinal vertical section of a fruit-drying apparatus; Fig. 2, a view with the top removed, showing two perforated division-plates broken and arrangement of slides for closing the hot-air port to fruit-chambers.

"*a a*" represent my apparatus, made of sheet tin, copper, iron, or any other suitable material, and of an oval, square, circular, or any desired shape, consisting of three or more distinct and separate chambers, "*b c d*," one above the other, the upper one, "*d*," of which has a top or covering plate, "*f*," provided with a short pipe, "*g*." The lower chamber, "*b*," is divided by a partition-plate, "*h*," extending across the same, at or near its center, into two chambers, "*k*" and "*l*," communicating with each other through apertures "*m m*" in plate "*h*," said apertures being each provided with a covering-slide, "*n n*," attached to a rod, "*o*," extending outside of the chamber "*b*," whereby they can be partially or entirely closed, as may be desired.

"*p p p*," &c., a series of apertures on lower chamber "*k*" of double chamber "*b*," communicating with the external air, which also may be provided with suitable closing or opening slides, and "*q*" an aperture in upper chamber "*l*," provided with a slide, "*r*," for opening or closing the same, also communicating with external air; "*s s*," two perforated horizontal plates, one placed in each chamber "*c*" and "*d*," resting upon cross-braces "*t t*," &c., of the same, at or near the bottom edges thereof; "*u u*," handles attached to lower portion of apparatus, for convenience in lifting or removing the same from one place to another.

The apparatus formed as above described is placed or fitted upon any suitable cooking or other stove, with its lower chamber "*k*," in direct communication with the heat from the same and with the fruit desired to be dried placed in the upper chambers "*c*" and "*d*." The heat from the stove, with the apertures "*n n*" open, necessarily passes upward through the same into the chamber "*l*" above, and from thence through the perforated plate "*s*" into and through the fruit placed upon the same in the chamber "*c*," and then through the other, "*d*," and finally out at the pipe "*g*" into the room or chamber, as may be desired. The passage of the hot air, as described, through each

chamber containing the fruit necessarily absorbs and dries the moisture contained therein, carrying it out of the apparatus through the delivery-pipe thereof, which operation may be continued until all or the desired portion of the moisture contained in the fruit is removed therefrom, when it can be taken out of the apparatus
139 through any suitably-arranged doors opening into each chamber, or by forming the separate chambers in such a manner that they can be easily detached from each other. The passage of the hot air to the fruit-chambers can be regulated at pleasure by opening or closing the delivery-apertures "*n n*" therefor to the same, as hereinbefore described, and the same with the admission of cold air to the chamber "*k*" in contact with the stove through the apertures "*p p*," &c., thus increasing or decreasing the currents of hot air to the fruit-chambers, and that, furthermore, if desired to cool the heated currents passing from the hot-air chamber to the fruit-chamber, the aperture "*q*," opening into the intermediate chamber "*l*," can be opened to the desired degree by simply moving its sliding cover.

Although I have described my apparatus as composed of three chambers, two of which are fruit-chambers and one a hot-air chamber, it is evident that the chambers may be increased in number at pleasure without departing from the principles of the present invention.

Having thus described my invention, I claim as new and desire to secure by letters patent —:

I claim the employment of one or more fruit-drying sections, in combination with the regulating-diaphragm, substantially in the manner and for the purpose herein shown and described.

ADAM SNYDER.

Witnesses:
BASIL MEEK.
WM. H. GALE.

Ex'd: H. M. H. E. A. M.

140 And afterwards, to wit, at a stated term of said court begun and held according to law at the city of Wilmington, in said district, on the third Tuesday (being the nineteenth day) of October, A. D. 1880, and on the 112th day of said term, to wit, on the 7th day of February, A. D. 1881, the following proceedings were had, to wit:

Interlocutory Decree.

JOHN F. WILT
vs.
GEORGE S. GRIER. } In Equity.

And now, to wit, this seventh day of February, A. D. 1881, this cause came on to be heard on the sixteenth and seventeenth days of November, A. D. 1880, and was argued by counsel; and thereupon, upon consideration thereof, it is ordered, adjudged, and decreed as follows:

1st. That the letters patent No. 190,368, issued May 1st, 1877,

granted to Asa Quincy Reynolds, of Chicago, Illinois, for a new and useful improvement in automatic fruit driers, and assigned to the Automatic Fruit Evaporator Company, Limited, a corporation of the State of Pennsylvania, on June 11th, 1877, and by said company assigned January 24th, 1878, to William W. Fenner, of Philadelphia, Penna., and by him assigned May 31st, 1878, to the
141 complainant, is a good and valid patent; that said Reynolds was the original and first inventor of the improvements therein described and claimed, and also that the said defendant has infringed upon the said patent and upon the exclusive rights of the complainant under the same as the assignee thereof.

2nd. That the said defendant, his agents and servants, be, and they are hereby, perpetually enjoined and restrained by a writ of injunction to be issued out of this court from directly or indirectly making, or causing to be made, using, or causing to be used, vending to others to be used in any manner, or contracting with others to use for their or either of their benefit, any fruit drier containing or embodying the said invention granted by the complainant's said letters patent No. 190,368, issued as aforesaid, and from infringing upon or violating the said letters patent of the complainant in any way whatsoever.

3rd. That the complainant do recover of the defendant the profits, gains, and advantages which the said defendant has received, or which have arisen or accrued to him from said infringement of the said complainant's patent by the manufacture, use, or sale of automatic fruit driers made in accordance with defendant's letters patent No. 221,056, issued October 28th, 1879, and also such damages, in addition to said profits, as the complainant may have sustained by reason of said infringements, and also that said complain-
142 ant recover of the defendant his costs and charges and disbursements in this suit, to be taxed.

4th. And it is further ordered, adjudged, and decreed that it be referred to S. Rodmond Smith, Esq., a commissioner of the circuit court of the United States for this district, to ascertain and take and state and report to the court an account of the gains, profits, and advantages which the said defendant has received or which have arisen or accrued to him from infringing the said exclusive rights of the said complainant by the manufacture, use, and sale of the said improvements patented in said letters patent, and also what damages in addition thereto the said complainant has sustained by reason of said infringements.

And it is further ordered, adjudged, and decreed that the complainant, on such accounting, have the right to cause an examination of said defendant, *ore tenus* or otherwise, also the production of the books, vouchers, and documents of the defendant, and that the said defendant attend for such purpose before said commissioner, from time to time, as said commissioner shall direct.

E. G. BRADFORD, JR.

143 Whereupon, to wit, February 12th, A. D. 1881, an injunction issued as follows:

Injunction.

In the Circuit Court of the United States for the District of Delaware.

UNITED STATES OF AMERICA, *District of Delaware,* } ss:

The President of the United States of America to George S. [L. S.] Grier, his clerks, attorneys, agents, servants, and workmen, Greeting:

Whereas it has been represented to us in our circuit court of the United States for the third circuit and district of Delaware that letters patent of the United States were issued in due form of law on the first day of May, 1877, to Asa Quincy Reynolds, of Chicago, Illinois, for a new and useful improvement in automatic fruit driers, said letters patent being known and distinguished as letters patent No. 190,368, and which were duly assigned to John F. Wilt, of Philadelphia, Pennsylvania, and that you, George S. Grier, have infringed the rights secured by the aforesaid letters patent by manufacturing, making, or causing to be made, and using, or causing to be used, and vending to others to be used, fruit driers
144 manufactured and made substantially as described in the letters patent aforesaid contrary to the form of the statute in such case made and provided:

Now, therefore, we do strictly command and perpetually enjoin you, the said George S. Grier, your clerks, attorneys, agents, servants, and workmen, under the pains and penalties which may fall upon you and each of you in case of disobedience, that you forthwith desist from directly or indirectly making, or causing to be made, using, or causing to be used, vending to others to be used in any manner, or contracting with others to use for their or either of their benefit, any fruit drier containing or embodying the said invention granted by the aforesaid letters patent No. 190,368, issued as aforesaid, and from infringing upon or violating the said letters patent of the said John F. Wilt in any way whatsoever.

Witness the Honorable Morrison R. Waite, Chief Justice of the Supreme Court of the United States, at Wilmington, in said district, this twelfth day of February, A. D. 1881, and the Independence of the United States of America the one hundred and fifth.

S. RODMOND SMITH,
Clk U. S. Circuit Court, District of Delaware.

Served personally on the 14th day of February, A. D. 1881.
So answers— H. H. McMULLEN,
U. S. Marshal Dist. of Del.

145 *Return.*

Injunction returned.

Service of the within writ is accepted; also acknowledge the receipt of a copy of the decree made by the judge of the district court in the case of John F. Wilt vs. George S. Grier.

February 14th, 1881.

GEO. S. GRIER.

146 And afterwards, to wit, at a stated term of said court begun and held according to law at the city of Wilmington, in said district, on the third Tuesday (being the 20th day) of June, A. D. 1882, the following proceedings were had, to wit:

JOHN F. WILT
vs.
GEORGE S. GRIER. } In Equity.

June 29, 1882.—The testimony taken before the commissioner on the accounting, and his report thereon, returned and filed, and the day of the return entered in the order-book.

Complainant's Testimony.

In the Circuit Court of the United States for the District of Delaware. In Equity.

JOHN F. WILT
vs.
GEORGE S. GRIER. } Bill of Complaint.

Testimony on the part of the complainant, upon the accounting, under the decree of the court in the above-stated cause, taken before S. Rodmond Smith, commissioner of said court, at his office in the post office building, at Sixth and King streets, in the city of Wilmington, Delaware, pursuant to a rule of reference, duly — as found in the above-entitled cause.

147 MONDAY, *August 1st*, 1881—1 p. m.

Present: Worth Osgood, solicitor and counsel for complainant; George P. Fisher, solicitor and counsel for the defendant.

GEORGE S. GRIER, the defendant, being duly sworn and examined by WORTH OSGOOD, Esq., solicitor and counsel for the complainant, deposes and says:

(Counsel for the defendants here object to any testimony being taken or any examination of the defendant *ore tenus*, or otherwise, or to the production of the books, vouchers, or documents of the defendant, with a view to ascertaining the account of the gains, profits, and advantages which the defendant has received from the alleged infringement of the rights of the complainant by the manufacture and sale of the improvements patented in said letters patent, &c., upon the ground that the defendant, in his answer, fully denied that he had made any gains or profits whatever by the manufacture and use of said improvements, and that said answer being neither excepted to nor controverted, nor attempted to be controverted, either by two witnesses or by one witness and corroborating circumstances, is, by the rules of equity, to be deemed and taken as
148 absolutely true; and there being no controversy, upon the trial of the cause, in respect of such gains and profits, the court erred in decreeing that an account of such gains and profits should be taken by the commissioner.)

(Counsel for complainant replies that complainant's replication to the defendant's answer is a full denial of all and every matter necessary to be denied. It denies the allegations of defendant relative to profits, &c., as well as other allegations. The question of infringement has been determined upon—proofs and exhibits made and taken at the proper times and in the usual course. We come now to the question of damages suffered by the complainant and profits made by the defendant; and the present proceedings appear not only regular and proper, but appear also to be the only proceedings known to the practice for the purpose of ascertaining the amount of damages and profits. As relates to defendant's answer, a considerable time has elapsed since said answer was made, and it may appear from these proceedings that other machines not named in the answer have been made, which, of course, should be accounted for.)

Objection overruled.

Q. 1. You are the defendant in this cause, I believe, Mr. Grier?

A. Yes, sir.

Q. 2. Will you please state how many fruit driers you have built or constructed?

149 A. I have built and sold twelve machines, according to the claims of my patent, now in controversy in this cause, No. 221,056. I have built other machines under the same patent which I have not sold. There were five of the latter.

Q. 3. Then, I understand from your answer that you have built seventeen machines according to your patent No. 221,056?

A. Yes, sir.

Q. 4. Have you built other machines in which the lowermost tray of the stack is elevated for the purpose of inserting a fresh tray beneath, substantially in accordance with the fourth claim of complainant's patent?

A. I have not.

Q. 5. Of these seventeen machines named by you how many have you used?

A. Directly, I have not used any.

Q. 6. What became of the five machines named by you?

A. There is one of these machines in Charlotte, New York—to a man by the name of Kentner. He agreed to take it and it was sent to him, and it appears he couldn't get the stock to work, or something, and he abandoned the idea of running it, and threw it on my hands. As he was not responsible I had to take the machine back. I bargained to sell two other machines to Alexander Henry, of Milford, Del. He was to take these machines over to Chester Town and erect a building for them, and he was to pay me

150 for those machines six hundred dollars apiece—that is, $1,200. I proposed to him that I would put two machines with his two machines, he to run the four machines together, and I to bear one-half of the expenses. He run the four machines through the whole season, and when we wound up the expenses and extra expenses—more than it would be at home—failed to make it pay.

He found he could not pay for the machines, and he preferred putting his time in at day's work, and I had to take the machines back of course.

Q. 7. How much money, or equivalent, did you draw from Alexander Henry on account of the joint operations?

A. Nothing. The expenses eat up the whole profits, and we came out minus when we adjusted our accounts. He was behind, I think, nearly six hundred dollars.

Q. 8. Leaving out of consideration the expenses of the transaction with Mr. Henry, about how much money was taken in on account of the operations?

A. I cannot say exactly. We sold part of our fruit in Boston and New York, and the other part to Matthew Simple & Co., of Philadelphia. Our sales amounted to about $5,000; say $5,500, which is as near as I can approximate. Of course the expenses came out of this. The expenses were even more than the receipts.

Q. 9. About how much was the raw fruit worth?

A. I furnished Mr. Henry five thousand dollars, I think,
151 through our bank. He had about $200, I think. He bought the fruit, giving different prices for it. Some of the fruit which was purchased was lost, owing to a glut, the fruit coming in faster than we could handle it. The raw fruit was worth from 25 cents to 45 cents a basket.

Q. 10. About how much did it all amount to—the green fruit that you dried?

A. Henry had the whole control and management. I cannot say how much his purchases of green fruit amounted to.

Q. 11. Under ordinary circumstances about how much money would it take to buy enough green fruit to make $5,500 worth of dried fruit?

A. It depends altogether upon the kind of fruit that was bought and the way it is handled and the price paid for it and the expenses incurred, of course.

Q. 12. Is that the best estimate that you can give us?

A. That is the best estimate I can make under the circumstances. Mr. Henry rendered an account to me that he paid out so much for peaches, so much for labor and coal, and other incidental expenses appertaining to the business.

Q. 13. Will you please state how much Mr. Henry paid out for peaches.

A. I cannot tell you how much he did. I could have posted myself from papers I have at home, but have not got them here.

Q. 14. Will you produce the papers at a future time?

A. I will.

152 Q. 15. You took these four machines back; at what figure?

A. I took them back at cost.

Q. 16. What was the cost?

A. He was to pay me $600 apiece for the two, and I took them back at the same figure.

Q. 17. Did Mr. Henry give you a note for the two machines?

A. He gave me no note; he left me a mortgage of $1,700 on a farm as collateral security.

Q. 18. Did Mr. Kentner give you a note?

A. No, sir.

Q. 19. How many machines have you in process of construction at this time?

A. I have none under the patents in controversy in this suit; I have some in process of building under my new patent. I don't intend to make any more under the patent 221,056; and I am now altering my old machines to correspond with my new patent.

Q. 20. How many have you in process of completion under the new patent?

(Objected to; impertinent and irrelevant.)

(In reply to the objection, counsel for the complainant desires to state that machines made under a new patent may be infringements as well as machines made under an old patent.)

A. I have three.

Q. 21. How many finished?

153 (Same objections.)

A. I have two nearly done and one just commenced.

Q. 22. Any sold?

A. I have not sold any one of the three.

Q. 23. Do you regard the machines built by you as good machines when compared with others in the market?

(Objected to; irrelevant.)

A. I do; equal to any. I claim my machine is superior to any in the market on account of its merits.

Q. 24. Have you advertised your machines?

(Objected to as indefinite, vague, and irrelevant.)

A. We have advertised our new patent machine; we don't offer the machine now in litigation for sale.

Q. 25. Did you advertise the machine made under your old patent?

A. We did before this litigation commenced, but have not since.

Q. 26. About how much did you pay out for advertising expenses of that machine?

A. About two hundred dollars.

Q. 27. Can you name the prices at which you sold each of the twelve machines named in one of your previous answers?

A. I sold to F. B. Arnold three machines at $400 each, making $1,200; I have received $800. I sold to S. T. Jenkins three machines at $400 each, making $1,200; I received $450. I sold to
154 Lyman Fox one machine at $500 and received $500. I sold to Voshell and German two machines at $500 each and received $1,000. I sold to Harvey Soper one machine, $575, and have received nothing on that yet. I sold to John J. Polk one machine for $600, for which I hold his note, which I consider as good as money. I sold to Hess and Campbell one machine at $500, and

have received on account $300. These are the only machines sold by me which were built after the specifications of my patent, 221,056.

Q. 28. What is the material in one of these machines worth?

A. The heaters cost me one hundred dollars each, or, for the twelve machines, $1,200; the wire cloths in four machines, five feet square, cost me $198.40; in the other right machines cost me $307.20; the lumber in the twelve machines cost me $300; the top or head of the machine, made of metal and wood, &c., at $10 each, cost me $120; the bottom deflectors, at about $15 in each machine, cost me $180; the machine gearing, &c., at $200 each, cost me $2,400; the screws, bolts, &c., at $15 each, cost $180; the wood-work, labor, &c., at $36 on each machine, cost $432; making patterns, altering and perfecting machines, $500 for the whole twelve.

(Counsel for the complainants objects to the last clause of the answer as not in response to the question.)

Q. 29. Will you please state how you make up these estimates?

155 A. In the first place we take the number of superficial feet in the machine, and from that we know how many square feet of wire screens, amount of lumber, &c., each machine requires, and the cost of each item added together give the aggregate.

Q. 30. How do you know the cost of each item? Do you guess at it or get it from your books?

A. We don't keep any accurate account on the books, but we know the size of each machine, and from that the cost. We have bills for some of the items purchased, as, for instance, the wire screening and the heaters and all other material constituting the machine.

Q. 31. Will you produce these books and accounts at the next hearing?

A. The books, if produced, would not show as clearly my profits as my statement here to-day, because I kept no individual account against the machines. I suppose, however, that my profits on the iron work, furnished from my foundry for the machines, would average about 10 per cent.

Q. 29. You furnish all the iron-work except the heaters and the wire screenings, which two named items you buy already manufactured?

[A.] I do; and we also buy whatever sheet-iron, galvanized iron screws are used in the construction of the machines; we also buy some of the smaller bolts, which we can buy cheaper than we can manufacture them, and also buy the shafting for the machines.

156 Cross-examination by Judge FISHER:

X Q. 30. In answer to question No. —, you state that you lost $600 in your transaction with Mr. Henry, in operating four machines at Chestertown. How much of that $600 loss do you legitimately attribute strictly to the drying of fruit, and how much of said loss is rightfully attributable to the sale and shipment of fruit purchased for the drying machines, which you had to sell at a sacrifice or loss on account of not being able to dry it?

A. I cannot say. It was reported to me that a great deal of fruit

was brought to the drier, which we could not use, and the best of it we had to sell for whatever we could get, and some of the rest rotted and was thrown into the dock. It came in so fast we could not use it.

X Q. 31. Was or was not your entire loss of $600 occasioned altogether by your inability to dry the fruit as fast as it came in, and none of it from the decline in the price of dried fruit?

A. It was not altogether by the glut, but partly from that and from the fact that part was marketed at a loss, and partly from erecting a building for the factory and shipping the fruit from Chestertown to Milford over two roads, and there have to be all sorted and packed in boxes. From these circumstances the fruit was damaged and sold at a loss and additional expense incurred, which destroyed the profits.

157 X Q. 32. You state that you have been building machines under and in accordance with the specifications of your new patent, No. 241,354; does the machine built in accordance with the specifications of this last patent consist of a fruit drier the outer wall of which is composed of the frames of the trays?

A. No, sir; it does not; the outer wall of the new machine is altogether disconnected with the frames of the trays.

X Q. 33. In estimating the cost of constructing the machines which you manufactured under your patent No. 221,056 did you take into account the cost of models filed in the Patent Office, the cost of making patterns for the castings, as also the cost of transporting the machines to the place where they were to be set up and operated, and the work and labor and material done, laid out, and expended in setting up the machines for operation?

A. No, sir; none of these were included in said estimate.

X Q. 34. Did you take into said account the cost of advertising?

A. I think I have already answered that the cost of printing and advertising amounted to about $200.

X Q. 35. State now what other items, in addition to those you have enumerated in your previous answers, enter into the cost of the construction of the machines made by you under the patent in litigation.

A. I claim that the making of the patterns for these machines and the making alterations and perfecting the machines—

158 this, I estimate, cost me $500 on the whole lot. Models for the Patent Office and the exhibition models, I estimate, cost me $100, $20 each, and there were five of them; expenses of procuring patent, $100; men's time, travelling expenses in setting up machines, $400; freight in hauling, &c., $100; my own time and expenses in travelling, &c., $1,000; commissions to agents in selling machines, $360.

(Counsel for the complainant enters a general objection to the answers to cross-questions which refer to the so-called expenses, other than labor actually paid for and actual cost of material entering into the construction of the machines, on the ground that the defendant is not entitled to be credited with such so-called other

expenses in estimating manufacturer's profits on infringing machines.)

Re-examination by Mr. OSGOOD:

Q. 36. In your answer to cross-question 32 you state that the outer wall of the new machine is altogether disconnected with the frames of the trays; what is the purpose of this outer wall if it be not connected with the frames of the trays?

A. The intention, in part, is to exclude the atmosphere from the side of the machine, so as to prevent the cold current from affecting the heating of the machine by entering the cracks and joints; also for the purpose of using sulphur in bleaching fruit and to
159 prevent the escapement of the fumes of the sulphur, and also for the purpose of economizing heat and fuel.

Q. 37. The stack of trays inside this outer wall in the new patent is operated about the same as in the old patent, is it not?

A. Not exactly. There is a change in the *modus operandi*. We lift the whole stack from the bottom to insert new trays, and support them by independent pawls—different from my prior patent, now in litigation.

Q. 38. After elevating the stack as mentioned, how do you manage to lower it?

(Objected to, for the reason that the questions relate to another and distinct patent, which is not in controversy).

A. By throwing in the pawls attached to the permanent posts, so as to engage with the frames of the trays, then reversing the machine, which allows the trays beneath the one thus engaged by the pawls to be withdrawn.

GEO. S. GRIER.

Sworn to and subscribed before me this first day of August, A. D. 1881.

S. RODMOND SMITH,
Commissioner.

160 WILMINGTON, DELAWARE, *December 12th*, 1881.

Present: Worth Osgood, Esq., solicitor and counsel for complainant; George P. Fisher, Esq., solicitor and counsel for defendant.

It is stipulated and agreed by and between the counsel aforesaid that the accounting before the master, pursuant to the decree of the court heretobefore made and entered in the foregoing stated cause, proceed to-day and hereafter by adjournment until the same be concluded and a decree of the court upon the same be reached, notwithstanding the prayer and allowance of appeal in the said cause and the fact that defendant's appeal bond has been approved and filed.

And it is further stipulated and agreed by and between the counsel aforesaid that the prayer and granting of the appeal and the approval and filing of the defendant's appeal bond in said cause be,

and the same *is* hereby, cancelled and regarded as never having been made, and the cause to be proceeded with to final decree.

SILAS T. JENKINS, a witness on behalf of the complainant, being duly affirmed, deposes and says:

Q. 1. Please state your name, age, residence, and occupation.

A. My name is Silas T. Jenkins; age, 61 years; residence, Milford Hd., Kent county, Delaware, and occupation, farmer.

161 Q. 2. Are you acquainted with George S. Grier, defendant in this cause?

A. Yes, sir.

Q. 3. Have you heretofore obtained any fruit driers from said Grier; and, if so, how many?

A. I have obtained three, one of which I bought; the other two I took and run them for the profits up to the price of the machine; then, if there was anything over, I was to have one-half of the profits and the machine.

Q. 4. In his answer to question 27 Mr. Grier states, "I sold to S. T. Jenkins three machines at $400 each, making $1,200; I received $450." Is that statement correct?

A. No, sir.

Q. 5. How much money have you paid over to Mr. Grier on account of those three machines prior to August first, 1881?

A. As to dates I don't know that I could say; I paid him $600, three hundred each time.

Q. 6. About when did you make the last payment?

A. I cannot say very positively, but I think it was about the first of June, 1881.

Q. 7. Did Mr. Grier agree to guaranty you against loss by reason of any claim for damages on account of infringement?

A. Yes, sir.

Q. 8. Were the machines to which you have referred of good quality?

162 A. I would like to ask how you mean.

Q. 9. I refer to their mechanical construction and their capacity for doing good work.

A. So far as their mechanical construction was concerned they were not first rate; they were made of green wood; but so far as their work was concerned it was good, but not up to the representations in regard to the amount turned out per day.

Q. 10. Would you like to be released from any obligation to make further payments on account of said three machines, and what would you be willing to do to obtain that release?

(Objected to as leading.)

A. I have already told him he might have the machines, which are now in Maryland, and the money I paid on them provided he would let me go free.

Q. 11. Were you ever associated with a Mr. Rhodes in this fruit-drying business?

A. He was my foreman in running the machines; he was not in any sense a partner; I paid him wages.

Cross-examination by Judge FISHER:

X Q. 1. In your answer to interrogatory No. 4 you say that Mr. Grier's statement in his answer to interrogatory No. 27, put to him in August last, that you had paid him $450 was not correct,
163 and you further say that you had paid him on the three machines which you obtained from him prior to August first last the sum of $600. Were there any other transactions between you and Mr. Grier whereby you stood indebted to him in any other way except on account of the purchase of these three machines?

(Objected to as immaterial.)

A. No, sir.

X Q. 2. In your answer to question ten you say: "I have already told him (Grier) that he might have the machines, provided he would let you go free." Why did you make that proposition to him?

A. Well, for two reasons; one reason was I did not like the construction of the machine and the other was I apprehended trouble from these gentlemen, the Automatic patent owners.

X Q. 3. What was there about the construction of the Grier machine to which you objected?

A. It was badly made; it was the workmanship. The lumber was green and the pawls by which the trays were raised did not work right.

X Q. 4. Have you ever operated an "Automatic" machine or drier?

A. No, sir.

Re-examination:

Q. 1. What do you consider the machines worth which you
164 offered to give up on certain conditions?

A. That is a pretty hard question. Outside of the value of the heaters I believe I would not have them as a gift for the purpose of running them. Of course they would bring something.

Q. 2. How much did you agree to give for the three machines, heaters and all—that is, what was Mr. Grier to receive for them?

A. I couldn't say; in fact, there was no price set on two of them. They were not bought at all.

Q. 3. But I understand you paid $600 for one. Is that correct?

A. Well, I would like to explain that. The $600 that I paid, three hundred was paid on the first machine, which was one-half the price of it; the other three hundred dollars was paid on account of the two other machines. My impression is that Grier's price of these machines was $600 each. I can't understand the discrepancy between my account and his. I am clear in my recollection that I paid him $600. I mean that $600 each was his selling price for the three machines, but not that I agreed to pay him that amount for them—that is, the last two. The first one I bought outright. I

was to give $600 for that, one-half cash and the balance at the next peach crop. There has been no peach crop since, and therefore the balance—three hundred dollars—has not been paid.

Q. 4. How much do you understand is still due on the machines?

A. I could not say about that.

165 Re-cross-examination:

R. X 1. You have said that one of the three machines you bought outright; the other two you were to run or operate and account to Grier for the entire profits you made by operating them up to the prices of the two machines, and after that you and he were to divide the profits you made. Now, what did the profits amount to during the season in which you ran them?

A. I can't tell, from the fact that I ran this one of my own with them and have never summed it up.

R. X 2. What was the amount of profits which you were to pay over to Grier before you were to divide the profits under your agreement?

A. That is impossible to tell, because it appears that there is a difference of $200 as to the price to be paid for each one. What I mean by dividing the profits after the machines were paid for is confined to the season of 1880; after that the machines were to be entirely mine.

R. X 3. At what price did you estimate the machines which you took to run on your agreement about the profits?

A. I suppose, at $600 apiece—that is, that he held them or valued them at that figure. I had no objection to taking them at that price, because I did not think the profits would reach that figure.

S. T. JENKINS.

Sworn to and subscribed before me this twelfth day of De-
166 cember, A. D. 1881.

S. RODMOND SMITH,
Commissioner.

JOSHUA T. JERMAN, being duly sworn as a witness on behalf of the complainant, deposes and says:

Q. 1. What is your name, age, residence, and occupation?

A. My name is Joshua T. Jerman; age, thirty-nine years; residence, Smyrna, Kent county, Delaware; occupation, farmer.

Q. 2. Did you, with Mr. Voshell, ever purchase from Mr. George S. Grier any fruit driers?

A. We did.

Q. 3. How many?

A. Two.

Q. 4. Any more than two?

A. No more.

Q. 5. What did you give for them?

A. We gave $1,000 for the two.

Q. 6. Were they good machines?

A. We considered them very poor machines; the workmanship was poor.

Q. 7. Did the machines do the work they were represented to be capable of doing?

A. They did not; only about one-half.

167 Q. 8. Were they supplied with a good heater?

A. The heater was inferior.

Q. 9. Did Mr. Grier promise to guarantee you against any claims for damages on account of infringement?

(Objected to; not pertinent.)

A. He did not; I never heard of any infringement.

Q. 10. Did you know that Mr. Grier had been running four of his machines at Chestertown?

A. No, sir.

Q. 11. How long have you run these machines?

A. During the peach season of 1880.

Q. 12. About what is the ordinary profit made by drying fruit?

A. I have not had enough experience to answer that satisfactorily; I have only operated them one season.

Q. 13. What representations were made to you as to the profits which could be made by running the fruit driers which you bought?

(Objected to, unless such representations were made by Mr. Grier, or his duly authorized agent.)

A. I can't remember exactly, but that the profits would be large.

Q. 14. And were these representations made by Mr. Grier?

A. They were.

Q. 15. Did he ever tell you about how much he had made from drying fruit?

(Objected to, unless it appears that what he had made was

168 from running his (Grier's) patent.)

A. I think not; he spoke about what others had made.

Q. 16. To whom did he refer?

A. I don't remember.

Cross-examination:

X Q. 17. Were these profits, according to your experience in running these machines with Mr. Voshell, large, as represented by Mr. Grier, or otherwise; and what was the amount of profits made by you during the season of 1880?

A. The profits were fair. The latter part of the question I cannot answer.

X Q. 18. How can you say they were fair if you don't know what they amounted to?

A. I meant under ordinary circumstances; the profits in evaporating peaches ought to be good.

X Q. 19. Were these ordinary circumstances under which you evaporated peaches during the season of 1880?

A. I suppose they were.

X Q. 20. Did you keep any account of the cost of the peaches, the cost of the labor and expense of evaporating them, and the price realized from the sales of the fruit so evaporated?

A. We kept such an account.

X Q. 21. And yet you cannot say what the amount of the profit was?

169 A. No, sir; not exactly. We were shipping fruit at the same time almost daily from the evaporator.

X Q. 22. Can you give any approximation of the profits made by you and Mr. Voshell from the fruit dried by the two Grier machines during the season of 1880, over and above the cost of the fruit, or its cost in its green state, and the cost of the labor and incidental expenses in drying it?

A. I suppose about fifty per cent. profit, after deducting all expenses, including interest on the machines and building and wear and tear of same.

X Q. 22½. How many baskets of fruit did you dry with those two machines per day—one day with another?

A. We averaged a little less than one hundred and fifty baskets per day with both machines.

X Q. 22¾. How many days did you operate them?

A. I think it was forty-one days.

X Q. 23. How much dried fruit on an average did you obtain from a basket of peaches?

A. Peeled fruit would average about two and three-quarters pounds to the basket and about four pounds for the unpeeled fruit.

X Q. 24. How many baskets of the six thousand that you dried were peeled?

A. About three-fifths. The remaining two-fifths were un-

170 peeled; of the pared about thirty-six hundred baskets; of the unpared about twenty-four hundred. The total was somewhat less than six thousand baskets, as contemplated by the foregoing calculation.

X Q. 25. At what price did you sell those peaches that were pared?

A. About twenty-seven and one-half cents per pound.

X Q. 26. At what price did you sell the unpared?

A. About thirteen and one-half cents.

X Q. 27. What was the price you gave for the peaches on an average?

A. That is hard to get at. We bought two orchards; say on an average about thirty to thirty-three cents per basket throughout the season.

X Q. 28. How many hands did you employ in running the machines, exclusive of the parers?

A. About six hands.

X Q. 29. At how much per day?

A. Say one dollar and a quarter per day.

X Q. 30. What did your dry-house cost you?

A. The house and fixtures, outside of machines, about $600.

X Q. 31. How much per basket did you pay for paring the peaches?

A. Ten cents a basket, and five cents for opening when we did not pare them.

X Q. 32. What was the cost of the fuel consumed per day of twenty-four hours?

A. About three dollars and a half.

171 X Q. 33. What would be about a fair estimate of the wear and tear of the dry-houses and the fixtures and machines, &c.?

A. I offered to give Grier $400 for the use of the machines if he would take them off our hands; that is, thirty-three per cent.; but I would think that a pretty steep estimate.

X Q. 34. What were the expenses of hauling, commission and freight, to the market?

A. About twenty dollars, and no commissions. The fruit netted us twenty-seven and one-half and thirteen and one-half over and above commissions.

X Q. 35. Were there any other expenses incident to drying; if so, what?

A. The boxes for packing fruit—the packing and marking them.

X Q. 36. How much was this?

A. About one hundred dollars; likely more.

X Q. 37. Did you and Mr. Voshell run these machines as partners?

A. Yes, sir.

X Q. 38. What portion of the profits were you to have?

A. The profits were to be divided equally between us.

X Q. 39. Did either of you, or both, superintend the drying of the fruit, the packing, shipping, &c.?

A. Both of us at times, myself mostly.

X Q. 40. What were your services worth per day?

172 A. About three dollars to have been there the same number of hours, I suppose.

X Q. 41. When you speak of having been forty-one days engaged in drying, does that include the packing, boxing, and shipping?

A. The packing, boxing, and shipping were extra.

X Q. 42. Do you mean to say that the packing, boxing, and shipping, &c., only cost you twenty dollars?

A. No, sir; the twenty dollars refers to freight and hauling alone.

X Q. 43. How much did the packing cost you?

A. Twelve dollars, I think. This was included in my answer to cross-interrogatory No. thirty-six.

X Q. 44. Have you and Mr. Vorshell settled your partnership account for this drying business and divided the profits?

A. There are some things unsettled.

X Q. 45. What are they and what do they amount to?

A. Work upon the building, amounting to not more than sixty dollars; that is all, I believe.

X Q. 46. Have you received your share of the profits?

A. I suppose I have.

X Q. 47. How much have you received altogether as your share of the profits of last season's work?

A. That is pretty hard to answer; say $200. I can't say exactly. There is insurance and expenses of that kind which is not included.

173 X Q. 48. Then the partnership is not concluded and wound up?

A. No, sir.

X Q. 49. Who was the book-keeper for the concern, Voshell and Jerman?

A. We have no regular book-keeper; I kept the books mostly.

X Q. 50. In whose possession are the books now?

A. I think they are at my father's.

X Q. 51. Are they under your control and in your custody?

A. I guess they are. I make my home at my father's and they were there when I last saw them.

J. T. JERMAN.

Sworn to and subscribed before me this 12th day of December, A. D. 1881.

S. RODMOND SMITH,
Commissioner.

174 JOHN F. WILT, a witness on behalf of the complainant, being duly sworn, deposes and says:

Q. 1. Are you complainant in this cause?

A. Yes, sir.

Q. 2. Are you actively engaged in the manufacture of fruit driers under the Reynolds patent sued on herein?

A. Yes, sir.

Q. 3. About how many of those driers have you sold, or caused to be sold, since you purchased the patent?

A. About 70 or 75; I don't know exactly.

Q. 4. About what is the average cost to you of a fruit drier of which the tray measures from four to five feet each way?

A. Two hundred and seventy-five to three hundred dollars; that is the average cost of what we call four or five feet driers.

Q. 5. At what price do you sell such driers?

A. Four feet, $450; five feet, $600. Our five feet is five feet square; the four-foot drier is four feet square.

Q. 6. About what, then, is your average profit on each machine?

A. Average of $275 to $300, or, perhaps, $250 to $275.

Q. 7. Have you been damaged to the amount of $250 to $275 for each infringing machine sold without your license?

(Objected to as leading.)

A. Yes, sir.

175 Q. 8. Has the sale of infringing machines of inferior quality and workmanship damaged your business beyond the amount of $250 or $275 for each such infringing machine?

(Objected to as leading.)

A. We could have sold other machines of ours where Mr. Grier sold his.

Q. 9. Would $250 or $275 for each such infringing machine repay you for the amount of damage you have suffered in your business by reason of the sale of such machines?

(Same objection.)

A. No, sir.

Q. 10. Do you build a good quality of machine?

(Same objection.)

A. We build the best we know how to; we have sold machines one year that were liked so well that we sold the same man the second year.

Q. 11. Does the sale of inferior machines affect the reputation of the general class of machines, and thereby reduce the possibilities of selling?

(Same objection.)

A. I think it does.

Q. 12. Have your advertised your machine somewhat?

A. Very considerably.

176 Q. 13. About how much have you expended in advertising?

A. I suppose about five to six hundred dollars; including sending out circulars it would amount to at least one thousand dollars.

Q. 14. About how much capital do you require to run the business and carry stock to be able to fill orders?

A. I suppose from six to seven thousand dollars.

Q. 15. Is that independent of heaters or heater work?

A. Yes, sir.

Q. 16. Do you put a good class of heater in all your machines?

A. Yes, sir; the best I know of.

Cross-examination:

X Q. 17. How long have you been selling the Reynolds drier?

A. I think I purchased the patent in 1878, and I have been selling ever since then.

X Q. 18. How many of the Reynolds drier have you sold during that time in Delaware and the eastern shore of Maryland?

A. About twenty-five, as nearly as I can recollect.

X Q. 19. To whom have you sold in Kent county, Delaware, or Sussex county, Delaware, or Kent county, Maryland?

A. To Shallcross, Kennard and Company, two brothers, whose names I can't remember, a Mr. Scurvin, all of Kent county, Maryland, as well as others, whose names I can't remember; to

177 John J. Rosa, Charles Barker, of Kent county, Delaware; to Guy Kendaw, D. N. Vanzandt, three driers; B. P. Wyncoop, Mr. Fox, Mr. Peters, Mr. Reynolds, Mark Davis, all of Sussex county. There are others in each county. There are at least twenty-

five in that section, because I know there were at least ten at Chestertown in 1880.

X Q. 20. To whom have you sold machines a second time after they had previously bought of you?

A. John J. Rosa; another party down that way—can't think of his name—resides at Milton, Delaware.

X Q. 21. In speaking of the profits you have made on these machines, do you mean to say you have made two hundred and fifty dollars clear, beyond all expenses—advertising, circulars, &c., expenses of building, &c?

A. In some cases; yes, sir; in other cases Mr. Grier compelled us to shave our profit down.

X Q. 22. Would it average two hundred and fifty dollars?

A. That I can't tell, because we make four sizes of machines. We make one for one hundred dollars, and we make a machine for three hundred dollars, and the advertising and expenses comes off the whole.

JOHN F. WILT.

Sworn to and subscribed before me this twelfth day of December, A. D. 1881.

S. RODMOND SMITH,
Commissioner.

178 *Defendant's Testimony.*

CLERK'S OFFICE, U. S. CIRCUIT COURT,
WILMINGTON, DELAWARE,
January 3rd, 1882, at one o'clock p. m.

Present: Worth Osgood, Esq., solicitor and counsel for the complainant; George P. Fisher, Esq., solicitor and counsel for the defendant.

GEORGE S. GRIER, the defendant and a witness previously sworn and examined in this cause, being again placed on the stand and examined, deposes and says:

Q. 1. How many driers of the Grier patent did you dispose of to Silas T. Jenkins, and on what terms did he take them?

A. I swore to three at first. In the first machine the trays were four by four and one-half feet. The price was four hundred and fifty dollars for that machine. The other two were four by five feet trays, and were sold at six hundred dollars each. The terms were—the first machine I sold him—the condition was he was to pay half the first season, which was 1879, and the remainder of the payment for the first machine was to be deferred until we had the next peach crop, whenever that might happen. I sold him the other two machines for six hundred dollars each, as I have already said. The
179 payment was conditional, as follows: He was to run all three of the machines, and if the profits on the three machines were sufficient to pay for the two last machines he was to so apply it; if not, he was to apply the profits as far as they would go, and was to have another season to pay for the balance.

(The answer is objected to, as being contradictory to answer to question No. 27 in the previous testimony of this witness.)

Q. 2. Was there any written agreement between you and Mr. Jenkins in reference to the sale and disposition of the said driers?

A. No, sir.

Q. 3. How much money have you received from Mr. Jenkins for said driers?

A. He gave me one hundred and fifty dollars on the first machine and three hundred dollars on the other two, making, altogether, four hundred and fifty dollars on the three machines. There is a difference of opinion between him and me on this point. He thinks he paid me three hundred dollars on the first machine, whereas he only paid me one hundred and fifty dollars. There is a difference of opinion also as to the price. My price for the four-by-five-foot machines was five hundred dollars that year, and the machine I sold him being less than that size I put it to him at four hundred and fifty dollars; and he contended that he ought to have it for four hundred dollars, because it had fewer number of boxes; and he afterwards wanted more trays, and upon furnishing them I charged him four hundred and fifty dollars.

(Same objection.)

180 Cross-examination:

X Q. 4. How have you refreshed your memory in regard to these matters since your former testimony?

A. I don't know that I have refreshed my memory at all; the substance is the same, so far as I know.

X Q. 5. Aside from the machines sold to Mr. Jenkins, did you sell any others that year at less than your price of five hundred dollars?

A. Yes; I bargained with F. B. Arnold for one at five hundred dollars. He then wanted to know if I would not make a difference in taking two. I then put the two at nine hundred dollars—four hundred and fifty dollars each; and that same fall I then sold him another machine at four hundred dollars, making three I had sold him that year. The first two were five by five and the last one was four by five.

X Q. 6. The total for the three was, then, how much?

A. Thirteen hundred dollars.

(Answer objected to by complainant's counsel as being contradictory to witness' previous examination.)

X Q. 7. It appears, according to previous testimony, that the three machines sold Mr. Arnold were at four hundred dollars each, making twelve hundred dollars total. Now, as there is a discrepancy of one hundred dollars in respect to these three machines, is
181 there a similar, or any, discrepancy as to the prices of machines sold to Fox, Voshell and Jerman, Soper, Polk, Hess, and Campbell?

A. I don't think there is a discrepancy in any of them. In sell-

ing machines we have sometimes to make an abatement, as I did in the Voshell and Jerman machines. They bought at six hundred dollars each—twelve hundred dollars for the two machines—and I agreed, if they did not make a profit the first year, to let them run another season. They tendered me one thousand dollars promptly at the end of the season, which I accepted, instead of waiting until the next season.

(Same objection.)

X Q. 8. Had you any similar bargain with Harvey Soper?

A. No; but he claimed an abatement on account of having burnt some fruit in the machine.

X Q. 9. At what price was the machine originally sold to him?

A. Six hundred dollars; there was an abatement on account of some freight and burnt fruit that one of my men burnt, and he claimed damages on this account. The abatement amounted to about fifty dollars—nearly that. I received about two hundred and sixty dollars from him. It was a short season, and he could not afford to pay for the machine, and I extended the time. The machine I sold Fox was to be five hundred dollars, which amount I received in full.

(Same objection.)

182 X Q. 10. What was the nature of your trade with Hess and Campbell?

A. I sold them a machine; it was to be six hundred dollars; it had to be shipped by way of Rochester, and the machine was sent at one time and the heater at another, and they claimed an abatement by way of freight and on account of the delay in their receiving the machine, and so we compromised at about five hundred and fifty dollars.

(Same objection.)

X Q. 11. And how much have they paid you on account?

A. They have settled for the machine in full; they finished paying me about the first of last month; that is, they made the last payment about that time.

X. Q. 12. How much does Mr. Jenkins owe you on account of the three machines?

A. He is under the impression that the three machines were at six hundred dollars apiece, and also that he paid me three hundred dollars on the first machine. That he did not. On the three machines he does owe me twelve hundred dollars.

X Q. 13. Then, the total price of the three machines to him must have been sixteen hundred and fifty dollars.

A. Yes; that you have on the other sheet, where I have just answered that.

X Q. 14. Well, how much does he then owe you on the first machine that he bought?

183 A. Three hundred dollars; that is, he owed me that when he bought the other two. I gave him a receipt—I think he

wrote it himself—for three hundred dollars on the last two machines. He promised to pay more when he sold his wheat, and also claimed that he had not had the second peach crop on the first machine as a reason why he did not settle.

Re-examination:

Q. 15. When you were examined here as a witness for the complainant were you or not apprised or aware beforehand of the questions that would be asked you by the solicitor for the complainant?

(Objected to as immaterial.)

A. I was aware of the questions which would be asked, and I answered them according to my best belief at that time. There have been some changes in settling with parties, which has made some difference in my first understanding.

Q. 16. What I meant was, were you aware before the questions were put to you on the stand as to what those questions would be?

A. No, sir; I was not aware of what questions would be put to me, but they were sprung upon me, and I had to answer as best I could. I thought I was correct then, but I know I am now.

(Answer objected to as being contradictory in substance to the answer to preceding question.)

184 Recross-examination:

X Q. 17. In making your answer in your former testimony in this cause, did you or not refer to written memoranda?

A. I had a little memoranda I had drawn up hastily, and since then I have corrected and refreshed myself, so that I could answer more definitely should I be called here again.

(Objected to as contradictory to answer of witness to cross-question nine, heretofore put.)

X Q. 18. Was that memorandum written in pencil or in ink?

A. It was in pencil.

X Q. 19. Where did you get the figures from?

A. From memory.

X Q. 20. How many pages did the memoranda cover?

A. I don't know, indeed; a half of [a] page, I suppose, of letter paper. I did it to refresh my memory, so that I could know what my sales amounted to.

X Q. 21. Did the memorandum contain notes of the cost of different materials, &c., of which you testified?

A. I think it did, if my memory serves me.

X Q. 22. Then this paper was written upon on both sides?

A. Yes; the items of the cost of these machines, &c., on one side and of the sales of the machine on the other, so far as my

185 memory serves me.

X Q. 23. Were these memoranda carefully made up?

A. Well, I thought they were at that time. I took the superficial feet of wire, the number of feet of lumber, and the different materials in the machine, thinking that would be sufficient to satisfy.

X Q. 24. How long were you employed or how much time did you expend in making these memoranda?

A. Well, I suppose about half an hour; maybe more or less; I couldn't tell exactly. I have a more accurate account now, so that I can give them more in detail.

GEO. S. GRIER.

Sworn to and subscribed before me this 3rd day of January, A. D. 1882.

S. RODMOND SMITH,
Commissioner.

ROBERT D. GRIER, a witness on behalf of the defendant, being duly sworn, deposes and says:

My name is Robert D. Grier; age, twenty-five years; residence, Milford, Delaware; occupation, machinist.

Q. 1. Where have you been working the past five years?

A. Principally with my father, George S. Grier, the defendant in this cause.

Q. 2. Will you please give us your estimate of the cost of
186 the construction of Grier's evaporator or fruit driers; and I will first ask you how many of them have been built and sold at your father's establishment?

(The first clause of the question is objected to as calling for incompetent and irrelevant testimony.)

A. Twelve fruit driers of the kind named have been built and sold at my father's. My estimate of the cost of their construction is about four hundred and fifty dollars apiece.

Q. 3. Tell us, if you know, who purchased these twelve evaporators and the price at which each one was sold.

A. F. B. Arnold two at four hundred and fifty dollars, one at four hundred dollars; Lyman Fox one at five hundred dollars; S. T. Jenkins one at four hundred dollars, two at six hundred dollars; Harvey Soper one at five hundred and fifty dollars; Voshell and Jerman two at five hundred dollars each; John J. Polk one at six hundred and fifty dollars; Hess and Campbell one at five hundred and fifty dollars. This is all that have been sold.

Q. 4. Please state whether any machines that were built by your father were run by you or by Alexander Henry, or by both, during the years 1880, at Chestertown, Maryland.

There were four machines built by father, and I went down after they had started to assist in running them at Chestertown.

Q. 5. Can you give me an account of the expenditure for
187 fruit, fuel, labor, and all other incidentals in running those four machines during that season; what was the amount of expenditure is what I want to get at?

A. There were expenses that there was no account taken of. After I took the book—from what Mr. Henry could remember and the expense afterward—they amounted to five thousand six hundred and forty dollars and ninety-two cents.

Q. 6. Does that include your own, Mr. Henry's, and all other labor that was given?

A. I think not.

Q. 7. What other items are to be added to that, if any?

A. Our own time and expenses, amounting to four hundred and thirty dollars.

Q. 8. Amounting, in the aggregate, to how much?

A. Six thousand and seventy dollars and ninety-two cents, exclusive of ground rent—the building in which the machines were set and the storage of the machines afterward.

Q. 9. Do you know what these three last items amounted to?

A. I paid twenty dollars ground rent when we were through. Since then there has been a bill for the time we left them there. I don't remember the amount of that bill. They were there until late in the fall, and he charged the same rate as when we were using them.

188 Q. 10. Tell us, if you know, how much was realized by the sale of the fruit dried by these four driers, as also the sale of the seed and the sale of any green fruit which you might have sold. What I want to know is the total income.

A. The total income of the fruit and seed was six thousand seven hundred and twenty-four dollars and eighty-five cents.

Q. 11. What, then, was the net profit of this business transaction?

A. Leaving out the ground rent and some other expenses, we realized about six hundred and fifty-three dollars and ninety-three cents.

Q. 12. Is that, then, clear of the time you, your father, your brother, and Mr. Henry expended in the fruit-drying business?

A. This includes all of our time and expenses; it is clear.

Q. 13. Is it or not clear of the cost of the machines?

A. The cost of the machines and their wear and tear are not taken into the account. A part of the expenses of the building is also included.

Q. 14. Do you know how much that part of the building which is not included amounted to?

A. I do not.

Q. 15. On what terms were these four machines operated by your father and Mr. Henry, if you know?

189 A. Mr. Henry wished to purchase two machines. He hadn't the money, and father, knowing him to be a good man, let him take two machines, with two others, to run altogether, with the understanding if he could pay for them, or wanted to pay for them, they were his. When he got through at Chestertown he wished to go West, and father took the machines off his hands, paying him for his time. It was satisfactory to both parties.

Cross-examination:

X Q. 16. What were the expenses of building the factory included in the five thousand six hundred and forty dollars and ninety-two cents?

A. I don't think I am prepared to answer; the books were kept

in such a state before I went there—there was no record kept. I think, though, one hundred and fifty dollars had been paid, which was included in the expenses in the five thousand six hundred and forty dollars and ninety-two cents.

X Q. 17. You included, also, four hundred and thirty dollars time, I believe; whose time?

A. Alexander Henry's time and expenses; father's (George S. Grier's), G. Layton Grier's, and my own.

X Q. 18. Were you all pecuniarily interested in the profits?

A. George S. Grier was the only one interested after we had got started.

X Q. 19. What became of the four machines?

190 A. Late in the fall they were removed and stored away; this last season we brought two of them home. They have never been used since.

X Q. 20. Was the expense of the removal charged in your estimate?

A. I think not.

X Q. 21. Of the four hundred and thirty dollars time before named how much of that sum is allowed for George S. Grier's time?

A. His time averaged him two days a week for eight weeks, amounting to forty-eight dollars.

X Q. 22. Do you know about a machine having been sold by George S. Grier to a party in Charlotte, New York?

A. You will please name the party.

(Answer objected to as not responsive to the question, and X Q. 23 *question* repeated.)

A. I know of a machine sold to Hess and Campbell, of Charlotte, New York.

X Q. 24. Do you know of any other machine?

A. I know of another machine that a man gave his order for; I put it up and started it, and we couldn't settle satisfactorily and the machine was not released—I mean he couldn't pay for it, and we had to take it back and it is now there on storage.

X Q. 25. At what price was this machine originally sold to the party?

(Objected to as misleading to the witness, he having already
191 answered that no sale was perfected of this machine.)

A. At six hundred dollars.

X Q. 26. What is intended to be done with these machines now in the hands of Mr. George S. Grier?

(Objected to; the witness can't speak of Mr. George S. Grier's intentions.)

A. I don't know.

X Q. 27. Have you altered any of them, or have they been altered?

A. Some of them have.

X Q. 28. Do you know how many fruit driers or fruit-drying

machines of the character of those about which we have been speaking have been built by Mr. George S. Grier?

(Objected to as vague and indefinite, and not directing the witness's attention to the machines in controversy.)

A. We have built seventeen machines after Grier's patent, "Excelsior," and two more now in course of construction at the works and not finished.

X Q. 29. Have there been others built after a subsequent patent of Mr. George S. Grier; and, if so, how many?

(Objected to; not pertinent.)

A. We have not built any machines except what I have named—machines after that style—since we first commenced building under Grier's patent.

192 X Q. 30. What do you mean by "after that style?"

A. Those are the only machines we have built since we first commenced under the Grier patent; these were all after the patent No. 221,056.

X Q. 31. It is stated in answer to question nineteen of the previous testimony of Mr. George S. Grier, after referring to patent No. 221,056, as follows: "And I am now altering my old machines to correspond with my new patent." Do you know what is meant by "new patent?"

(Objected to; not in reply.)

A. The "Champion" machine.

X Q. 32. And do you know how many machines are in process of completion under that "new patent?"

A. One of the Excelsior has been changed and used; that is the only one that has been used after being altered, to the best of my knowledge; we have two others at the shop in process of completion; they are new machines entirely, with the "Champion" improvement.

ROB. D. GRIER.

Sworn to and subscribed before me this third day of January, A. D. 1882.

S. RODMOND SMITH,
Commissioner.

193 LUCIUS T. FOX, a witness on behalf of the defendant, being duly sworn, deposes and says:

My name is Lucius T. Fox; age, twenty-five years; residence, Milford, Delaware; occupation, farmer, fruit grower, and drier.

Q. 1. Have you had any experience in evaporating fruit by the Automatic or Reynolds fruit drier, or the Grier Excelsior fruit drier? If so, how long have you operated with either of them?

A. With the Automatic, four years; with the Excelsior, three years.

Q. 2. Who built the Excelsior which you have operated?

A. George S. Grier and Son.

Q. 3. Of whom did you procure the Reynolds drier?

A. D. N. Vanzandt.

Q. 4. Who is he, and who does he sell for?

A. He is the agent for the Automatic.

Q. 5. Have you or not operated them side by side in the same building?

A. I have.

Q. 6. What comparison do you make of the timber out of which they are respectively built?

A. The trays in each machine are built of white pine lumber.

Q. 7. Have you ever observed that the lumber in the Grier machine is greener and shrinks more than that in the Automatic?

194 A. Well, I don't know that it is; I never noticed particularly.

Q. 8. Which of the two machines—the Grier or the Automatic—is most easily operated?

A. I think Mr. Grier's is the most easily operated for this reason: the Excelsior machine has double trays, and the Automatic are five feet square; one man can handle the small trays, where in the other machine it takes two when they are full of fruit.

Q. 9. Are the two machines of the same size which you work?

A. Yes, sir; the dimensions of each drier are the same.

Q. 10. Which of the two machines will dry the most fruit in twenty-four hours, or in any given time?

A. That is a hard matter for me to tell, as I never tried to make one beat the other.

Q. 11. Which of the two dries the fruit most uniformly or evenly?

A. Well, on a calm day, I rather think the "Excelsior" will dry the fruit rather more evenly than the other.

Q. 12. Did you or not ever apply to Mr. Grier to change the Automatic to a Grier machine—an Excelsior?

A. My father has talked of it.

Q. 13. You and your father work those machines together, do you?

A. Yes, sir.

Q. 14. Your father's name is Lyman Fox, or not?

195 A. Yes, sir.

Q. 15. Which of the two machines—the Excelsior or the Automatic—would you prefer to have at the same price, each machine being of the same size?

A. Well, if I was to take my choice, I would take the Excelsior, because I would have to run it myself, and I could handle it myself.

Cross-examination:

X Q. 16. How long have you run these machines side by side?

A. Three years.

X Q. 17. Which is most profitable to run?

A. I rather think that Mr. Grier's is, because I need not procure any labor.

X Q. 18. That the only reason?

A. I believe it is.

X Q. 19. About how much profit do you suppose you have made during the three years in which you have run the Excelsior machine?

A. Well, sir, I could not answer that; I have no idea; we ran the two machines together nearly all the time while we were at work.

X Q. 20. Do you think that more than half of your profits on the two machines are due to the use of the Excelsior machine?

196 A. Well, I can only answer it by saying that when we did only run one machine we ran the Excelsior; therefore more than half would be due to it.

X Q. 21. Which machine dries most evenly in calm weather?

A. I think that the Excelsior machine does.

X Q. 22. And which in stormy weather?

A. Well, there is not much difference in stormy weather, but when the wind is blowing the Automatic dries very uniformly, especially when the wind is in certain localities, say from the northwest.

X Q. 23. What was the expense of the Excelsior machine originally?

(Objected to as immaterial and not in reply.)

A. Five hundred dollars.

X Q. 24. Has it been altered since you had it?

(Same objection.)

A. It has.

X Q. 25. What was the matter with it?

A. There was nothing the matter with it that I know.

Re-examination:

Q. 26. Did you ever see the Automatic drier operated by Mark and Robert Davis?

A. I was over there one Saturday afternoon when the machine was at work.

197 Q. 27. Do you remember what direction the wind was from that day?

A. I do not.

Q. 28. How did those machines of Davis work when you saw them? Did they dry the fruit evenly or unevenly?

A. I s-pose you might call it unevenly at that time.

Q. 29. What conclusion did you come to regarding the machines—had they been yours—whether you would keep them or tear them down?

A. I said to Mr. Davis, What makes your machines scorch your fruit in the centre? I think he said he did not know, unless it was they did not have a sufficient quantity of air.

Q. 30. How did you know that the fruit was scorched in the middle?

A. Because I could see over the top, and I drew out one of the trays, and then I could see it.

Recross-examination:

X Q. 31. How long did you stay at that place that day?

A. Probably I was there one-half an hour.

X Q. 32. Did you advise the gentlemen how they could prevent the scorching to which you referred?

A. I told them I would put some sheet-iron in the centre, under the trays.

198 X Q. 33. Did you ever observe that the Excelsior machine scorched fruit sometimes in the centre or elsewhere?

A. Sometimes, when the wind is blowing very hard, it will scorch the fruit on the opposite — from the direction of the wind.

LUCIUS T. FOX.

Sworn to and subscribed before me this third day of January, A. D. 1882.

S. RODMOND SMITH,
Commissioner.

JOHN ARCHER, a witness on behalf of the defendant, being duly affirmed, deposes and says:

My age, sixty-two years; residence, Milford, Delaware, and occupation evaporating fruit.

Q. 1. How long have you been engaged in evaporating fruit?

A. Ten years.

Q. 2. What driers have you operated with?

A. Alden, George S. Grier's patent, Excelsior, and the Automatic.

Q. 3. Will you tell which of the two machines, the Automatic or the Excelsior, operates most successfully and profitably in the drying of fruit? And give your reasons, if you prefer one beyond the other, for such preference.

199 A. So far as operating I prefer the Excelsior for several reasons. In the first place, the machine is more easily handled than the Automatic; next place, you can look into the fruit at any part of the machine without tearing down the whole stack of trays or boxes; in the next place, we can unload our Excelsior machine at the bottom or at any other part of the machine desired; we can take out a frame anywhere. I prefer the Excelsior from the experience I have had with both machines, having dried apples on the Excelsior and peaches and apples on the Automatic, and from the experience I have also had in two winters at the North I found the Excelsior dried more evenly than the Automatic.

Q. 4. Do you know which of the two will dry the most fruit in twenty-four hours?

A. I don't think I could answer that correctly, as I have never run the machines alongside of each other, nor never kept an account of their respective productions for comparison.

Q. 5. Did you or not ever observe that the Excelsior machine was made of greener lumber than the Automatic?

A. I never observed that it was.

Q. 6. Have you ever observed that the lumber in the Excelsior had shrunken worse than that in the Automatic?

A. I have never noticed any shrinkage in the Excelsior that I run, nor never in the Automatic that I have seen. I would
200 have been likely to have observed it had it been the case, as I attended to their running personally.

Cross-examination:

X Q. 7. Where did you dry fruit on Excelsior machines?

A. Palmyra, New York.

X Q. 8. How many Excelsior machines did you use?

A. Three.

X Q. 9. To whom did they belong?

A. F. B. Arnold.

X Q. 10. How did you come to be running these machines?

A. Mr. Arnold sent for me after I got through evaporating at Milford.

X Q. 11. What sizes were the machines?

A. I think there were two five by five foot and one four by five foot.

X Q. 12. On what terms did you run these machines?

A. On a salary.

X Q. 13. Did you ever dry any peaches on the Excelsior?

A. No, sir.

X Q. 14. Is it usual to take out cured fruit at the bottom of the machines?

A. It is not usual; no, sir.

201 X Q. 15. Can you raise the trays of the Excelsior as quickly as those of the Automatic?

A. Well, I don't know that there is any difference in time in raising the trays; it is easier in the Excelsior.

X Q. 16. Can you not examine the fruit in any part of the stack in the Automatic?

A. In the machines I ran you could not, unless you took a pry and hoisted up the covers of a tray or box.

X Q. 17. Do you know whether or not the trays of the Automatic are made in two parts?

A. Yes, sir; I have seen them.

X Q. 18. Why will the Excelsior dry more evenly than the Automatic, if it will?

A. I don't know that I can tell you why it will; may be something in the construction of the furnace, possibly; more likely this than anything, as the boxes are the same.

X Q. 19. Why will the Automatic not cure as much good fruit in a given time as the Excelsior, if it will not?

A. I don't know that I can answer that either; unless a man knows the construction of the furnaces, and so on, he can't tell, in my opinion.

Re-examination:

Q. 20. Have you ever seen the Automatic machines of
202 Messrs. Mark and Robert Davis in operation?

A. I have.

Q. 21. How did they operate, as compared with the Excelsior—better or worse?

A. Worse.

Q. 22. Did you or not advise them to tear the machines out on account of their operating so badly?

A. No, sir; I don't think I did; not to tear them out. It was none of my business; but I said to him that the machines were not doing good work. Some of the fruit was scorched and some dried well and some was not.

Recross-examination:

X Q. 23. Was all this the fault of the machine, or the management?

A. Undoubtedly it was from defective distribution of the heat; that is what I thought and said at the time.

X Q. 24. Was the machine overloaded?

A. No, sir.

X Q. 25. Were the trays properly loaded with green fruit?

A. I don't think they were, according to my judgment and my experience.

X Q. 26. Then I take it that considerable fault might have been found with the management. Am I correct?

203 A. Undoubtedly; there were some in the spreading of the apples on the frames, but that would not obviate all the difficulty.

JOHN ARCHER.

Affirmed to and subscribed before me this third day of January, A. D. 1882.

S. RODMOND SMITH,
Commissioner.

Report.

In the Circuit Court of the United States for the District of Delaware. In Equity.

JOHN F. WILT
vs.
GEORGE S. GRIER. } Bill of Complaint.

To the honorable the judges of the circuit court of the United States for the district of Delaware:

In pursuance of a decretal order of reference made and entered in the above-entitled cause on the seventh day of February, A. D. 1881, by which it was referred to S. Rodmond Smith, Esquire, a commissioner of the circuit court of the United States for said district, to ascer-

tain and take and state and report to the court an account of the
204 gains, profits, and advantages which the said defendant has received or which have arisen or accrued to him from infringing the exclusive rights of the said complainant by the manufacture, use, and sale of the improvements patented in letters patent No. 190,368, &c., I, S. Rodmond Smith, commissioner as aforesaid, to whom the matter was referred, do respectfully report that I have been attended on such reference by the solicitor for the complainant, Worth Osgood, Esq., and by the solicitor for the defendant, Honorable George P. Fisher, and have taken and examined the evidence offered on each side and hereto annexed.

That I find that said defendant has manufactured seventeen machines which are infringements of complainant's letters patent No. 190,368.

That the defendant has sold twelve of said seventeen machines for the sum of six thousand three hundred and twenty-five dollars.

That the cost to the defendant for said twelve machines was the sum of five thousand and fifty-nine dollars and sixty cents.

That the gains of said defendant in the manufacture and sale of said twelve machines was the sum of twelve hundred and sixty-five dollars and four cents.

I further find that the said defendant realized, clear of all expenses, by the operation and use of four of the remaining five infringing machines during the season of 1880, at Chestertown,
205 Md., the sum of six hundred and fifty-three dollars and ninety-three cents.

I respectfully recommend to the court the entry of judgment, in favor of the said complainant and against the said defendant, in the sum of one thousand nine hundred and eighteen dollars and ninety-seven cents, with interest from February seventh, A. D. 1881, besides costs.

All of which is respectfully submitted.

Dated June 28th, 1882, Wilmington, Del.

S. RODMOND SMITH,
Commissioner.

206 And afterwards, to wit, at a stated term of said court, begun and held, according to law, at the city of Wilmington, in said district, on the third Tuesday (being the seventeenth day) of October, A. D. 1882, and on the 106th day of said term, to wit, on the 30th day of January, A. D. 1883, the following proceedings were had, to wit:

Final Decree.

JOHN F. WILT
vs.
GEORGE S. GRIER. } In Equity.

Present: The Honorable Edward G. Bradford, judge.

This cause came on to be heard on the sixteenth and seventeenth days of November, A. D. 1880, and was *agreed* by counsel, and

thereupon, upon consideration thereof it is ordered, adjudged, and decreed, and this court, by virtue of the power and authority therein vested, doth order, adjudge, and decree, that the letters patent No. 190,368, issued May first, 1877, granted to Asa Quincy Reynolds, of Chicago, Illinois, for a new and useful improvement in automatic fruit driers, and assigned to the Automatic Fruit Evaporator Company, Limited, a corporation of the State of Pennsylvania, in June 11th, 1877, and by said company assigned January 24th, 1878, to William W. Fenner, of Philadelphia, Pennsylvania, and by him assigned, May 31st, 1878, to the complainant, is a good and
207 valid patent, and that said Reynolds was the original and first inventor of the improvements thereon described and claimed, and also that the said defendant has infringed upon the said patent and upon the exclusive rights of the complainant under the same as the assignee thereof.

And it is further ordered, adjudged, and decreed, and this court, by virtue of the power and authority therein vested, doth order, adjudge, and decree, that the said defendant, his agents and servants, be perpetually enjoined and restrained, by a writ of injunction to be issued out of this court, from, directly or indirectly, making, or causing to be made, using, or causing to be used, vending to others to be used in any manner, or contracting with others to use for their or either of their benefit, any fruit drier containing or embodying the said invention granted by the complainant's said letters patent No. 190,368, issued as aforesaid, and from infringing upon or violating the said letters patent of the complainant in any way whatsoever.

And it is further ordered, adjudged, and decreed, and this court, by virtue of the power and authority therein vested, doth order, adjudge, and decree, that the said defendant pay to the said complainant the sum of one thousand nine hundred and eighteen dollars and ninety-seven cents, with interest thereon from February 7th, A. D. 1881, amounting to a further sum of two hundred and twenty-eight dollars and four cents.

208 And it is further ordered, adjudged, and decreed that the said defendant pay to the said complainant his costs in this suit, to be taxed, and that the said complainant have execution for such costs and for the sums above decreed, to be paid to said complainant as aforesaid.

E. G. BRADFORD,
U. S. Dis'ct Judge.

And at the same term, to wit, October Term, A. D. 1882, the following proceedings were had, to wit:

January 30th, 1882, a perpetual injunction issued out of said court, as follows:

Injunction.

The President of the United States of America to George S Grier his clerks, attorneys, agents, servants, and workmen, Greeting:

Whereas it has been represented to us in our circuit court of the United States for the third circuit and district of Delaware that let-

ters patent of the United States were issued in due form of law on the first day of May, A. D. 1877, to Asa Q. Reynolds for improvements in automatic fruit driers, said letters patent being known and distinguished as No. 190,368, and that you, the said George S. Grier, have infringed the rights secured by the aforesaid letters pat-
209 ent by manufacturing, making, and selling to others fruit driers (embodying the principles and constructions patented as aforesaid) contrary to the form of the statute in such case made and provided:

Now, therefore, we do strictly command and perpetually enjoin you, the said George S. Grier, your clerks, attorneys, agents, servants, and workmen, under the pains and penalties which may fall upon you and each of you in case of disobedience, that you, forthwith and forever, desist from making, manufacturing, or selling, in violation of said letters patent, any fruit driers made and manufactured substantially as described and claimed in the said letters patent.

Witness the Honorable Morrison R. Waite, Chief Justice of the Supreme Court of the United States, at the city of Wilmington, Delaware, in the district of Delaware, this 30th day of January, in the year of our Lord one thousand eight hundred and eighty-three.

[L. S.] S. RODMOND SMITH, *Clerk.*

WORTH OSGOOD, Esq.,
Solicitor for Complainant.

Injunction returned.

Returned.

Served personally by delivering a copy of the final decree of the said court to the within-named George S. Grier, also by read-
210 ing to him the within injunction, and showing to him the seal of the court thereon, on the 6th day of February, 1883.

So answers— HENRY H. McMULLEN,
U. S. Marshal, Dist. of Del.

FEBRUARY 20TH, 1883.

This day came the defendant, by his solicitor, and prayed an appeal to the Supreme Court of the United States, as follows:

Appeal of Defendant.

In the Circuit Court of the United States for the District of Delaware.
In Equity.

JOHN F. WILT
vs.
GEORGE S. GRIER. } Injunction Bill.

To the honorable the judges of the said circuit court:

The petition of George S. Grier, defendant, as above, respectfully represents:

That the above cause is one touching patent rights, and
211 that he desires to appeal from the final decree rendered in

the said cause to the Supreme Court of the United States, and that he prays that the said appeal may be allowed.

GEO. S. GRIER.

Endorsed: "Appeal allowed." E. G. Bradford, U. S. dist. judge.

And the same day (February 20th, 1883) came defendant, by his solicitor, and filed the bond of himself, William T. Vaules, George Russell, John W. Jump, William G. Hering, and W. N. W. Dorsey, all of Milford Hundred, Sussex county, Delaware, in the sum of five thousand dollars, conditioned that said defendant shall prosecute his appeal to effect and answer all damages and costs if he fail to make his plea good, which bond is approved by the district judge, and is as follows:

Bond on Appeal.

In the Circuit Court of the United States for the District of Delaware.
In Equity.

212 JOHN F. WILT *vs.* GEORGE S. GRIER. } Injunction Bill.

Know all men by these presents that we, George S. Grier, William T. Vaules, George Russell, John W. Jump, William G. Hering, and W. N. W. Dorsey, all of Milford Hundred, in the county of Kent and State of Delaware, are held and firmly bound unto John F. Wilt, complainant above named, in the sum of five thousand dollars, lawful money of the United States of America, to be paid to the said John F. Wilt, his executors or administrators; to which payment, well and truly to be made, we bind ourselves and each of us, jointly and severally, our and each of our heirs, executors, and administrators, firmly by these presents.

Sealed with our seals, and dated this fourteenth day of February, anno Domini one thousand eight hundred and eighty-three.

Whereas the above-named George S. Grier hath appealed to the Supreme Court of the United States from the final decree rendered in the above suit by the circuit court of the United States for the district of Delaware:

Now, therefore, the condition of this obligation is such that if the said George S. Grier shall prosecute his appeal with effect, and pay all damages and costs if he fail to make his appeal good,
213 then this obligation shall be void, but otherwise shall remain in full force and virtue.

GEO. S. GRIER. [SEAL.]
WILLIAM T. VAULES. [SEAL.]
GEORGE RUSSELL. [SEAL.]
JOHN W. JUMP. [SEAL.]
W. G. HERING. [SEAL.]
W. N. W. DORSEY. [SEAL.]

Sealed and delivered in presence of—
F. L. GRIER.
E. CALL.
M. D. CHAMBERLAIN.
JONATHAN DICKERSON.
JAS. H. SALMONS.
ISAAC S. TRUITT,
As to W. N. W. Dorsey.

Endorsed: "Approved. E. G. Bradford, J."

214 *Clerk's Certificate.*

UNITED STATES OF AMERICA, *District of Delaware,* } ss:

I, S. Rodmond Smith, clerk of the circuit court of the United States of America for the district of Delaware, do hereby certify that I have compared the writings annexed to this certificate, and they are true copies of their respective originals, and are correct transcripts therefrom, now on file and remaining of record in my office, being a full and complete transcript of the record and proceedings in the case of John F. Wilt *vs.* George S. Grier, in equity.

In testimony whereof I have hereunto set my hand and duly affixed the seal of the said court, at the city of Wilmington, in said district, this eleventh day of October, in the year of our Lord one thousand eight hundred and eighty-three, and of the Independence of the United States the 108th.

[Seal of Circuit Court, Delaware.]

S. RODMOND SMITH, *Clerk.*

215 Whereupon a citation issued.

The United States of America to John F. Wilt, Greeting:

You are hereby cited and admonished to be and appear at a Supreme Court of the United States, to be holden at Washington on the second Monday of October next, pursuant to an appeal in the circuit court of the United States for the district of Delaware, wherein George S. Grier is appellant and you are appellee, to show cause, if any there be, why the decree passed against the said appellant should not be reversed and speedy justice should not be done to the parties in that behalf.

Witness the Honorable Edward G. Bradford, district judge of the United States for the district of Delaware, at the city of Wilmington, in the said district, this twenty-seventh day of February, A. D. 1883, and of the Independence of the United States the one hundred and seventh.

[SEAL.] EDWARD G. BRADFORD,
District Judge.

I accept service of the above citation this 10th day of March, A. D. 1883.
WM. A. OSGOOD,
Solicitor for Appellee.

(Indorsment on cover:) U. S. circuit court, district of Dela-
216 ware. George S. Grier, appellant, *vs.* John F. Wilt. Citation. Filed March 12, 1883. S. R. S.

217 *Opinion of the Hon. Edward G. Bradford, U. S. District Judge. Filed in the Foregoing-Stated Cause January* 29, 1881.

218 JOHN F. WILT *v.* GEORGE S. GRIER.

Where a person procures a patent for the building of a machine, which produces certain results which are novel and useful, by means of certain mechanical contrivances and appliances, any person who attempts to accomplish the same results by mere substitutions, which are equivalents of the means employed by the first patentee, is an infringer.

Any application of known mechanical powers which will produce that result, although different in form from the means employed by the original patentee, is a mechanical substitute and equivalent of the same.

In equity.

Worth Osgood, for complainant; George P. Fisher, for defendant.

This is a bill in equity, brought by the complainant, Wilt, against the defendant, Grier, for alleged infringement of said Wilt's letters patent No. 190,368, issued May 1, 1877, originally to A. Quincy Reynolds, of Chicago, Ill., and by him transmitted by mesne assignments to the complainant.

This patent is for an improvement in automatic fruit driers, and its peculiarity and novelty consist in mechanical arrangements and devices by which a stack of trays, fitting into each other, the outer edges of which constitute the outer side of the stack of trays, or drying-house, are moved upwards and suspended by attachments to the lower tray in order that a fresh tray of fruit can be inserted at the bottom and the process repeated at pleasure, thus building up the drying-house or stack from the bottom.

219 It is not contended that the patentee is the inventor of the movable trays, the outer walls of which constitute the dry-house. It is admitted the existence of such trays for such purpose is old in the art, but the complainant contends that the patentee is the originator of an idea, which is a novel and useful one, of raising the stack of trays from a point on the lowermost tray of the stack, thus making an opening for the insertion of a fresh tray containing fruit and in this manner building the stack up from the bottom instead of from the top. This is accomplished by arrangements and devices shown and described in his drawings and specifications.

The defendant, Grier, admits that he has manufactured Automatic fruit driers embodying the above ideas, but justifies his action under the authority granted him in letters patent No. 221,056, issued February 14, 1880. So that the question in controversy is a question of fact whether or not the defendant, in making fruit driers in accord-

ance with his patent No. 221,056, has infringed the complainant's rights under the aforesaid patent No. 190,368.

Now, while it is true as a matter of law that the issuance of a patent gives a *prima facie* right to the claimant to operate under that patent, it is by no means conclusive, but is subject to investigation by the proper courts when questioned by a party whose rights are claimed to be infringed thereby.

The right which is the subject-matter of this alleged infringement is to be found set forth in the complainant's fourth claim of his patent No. 190,368, and is in the following words: "In combination with a fruit drier, the outer wall of which is made up of the frames of the several trays, as explained, a suspending device, operating substantially as described and supporting said drier from a point in or on the lowermost tray thereof, for the objects named."

Referring to the drawings and specifications for the meaning of the words "substantially as described," as applied to the term "suspending device" in said claim, we find that the complainant does not confine himself to the precise means indicated by the words of the claim; for he expressly says: "And I desire to be under-
220 stood as not limiting my invention * * * to any particular method of suspending the same," referring to the means of suspension of the stack as well as to the wheels of the drier. And again he says: "Figure 1 is a partial section and elevation of my improved fruit drier, showing the same as being located over an ordinary stove, and illustrating a simple means of elevating the machine" (par. 2); and again: "The swinging crane and windlass combined is regarded as the simplest means likely to be employed for elevating the drier" (par. 8). So that the complainant has not limited himself to any terms in his specification and claims to the employment of only the means and devices for suspending or elevating the stack, as shown by his specifications and drawings, but he has left open to himself the use of other means which might occur to him as more convenient and better adapted to the "purposes intended" than the mechanism shown by the drawing; the object and value of the patent consisting not in the use of any special machinery for elevating the stack for the purposes intended, but the elevation and opening of the said stack at the bottom for those purposes by any machinery best calculated to attain that end.

The complainant has evidently acted under the idea that he was at liberty to change the devices for elevating the stack, for his machine as manufactured and sold, and exemplified by Exhibit C in this cause, exhibits devices and arrangements for accomplishing this result different in form and structure from the machine as represented in the drawings and specifications attached to his patent.

The court is, therefore, of the opinion that any attempt by defendant, or any other person, to elevate the stack of trays so constructed as aforesaid, and from a point at or on the lowermost tray thereof, so as to insert new trays at the bottom successively, by any mechanism whatever adapted to accomplish that purpose, and which is a mechanical equivalent to the means employed by the complainant, is an infringement of his patent.

Has the defendant, Grier, substituted machinery and devices in his machine which are the mechanical equivalents of the mechanism and devices employed by the complainant to accomplish
221 the same result in the elevation of the stack of trays, from a point in or on the lowermost tray thereof, so as to permit the insertion of a fresh tray at the bottom? This question can be best answered by referring to the opinions of the courts upon the meaning of the term "mechanical equivalents." Thus, in Carter *v.* Baker, 4 Fisher's Pat. Cases, 404, Mr. Justice Sawyer says: "When, in mechanics, one device does a particular thing, or accomplishes a particular result, every other device known and used in mechanics, which skilled and experienced workmen know will produce the same result, or do the same particular thing, is a known mechanical substitute for the first device mentioned for doing the same thing, or accomplishing the same result, although the first device may never have been detached from its work and the second one put in its place. It is sufficient to constitute known mechanical substitutes that when a skilful mechanic sees one device doing a particular thing that he knows the other devices, whose uses he is acquainted with, will do the same thing."

Mr. Justice Curtis, a high authority upon the subject of patent law, in Foster *v.* Moore, 1 Curtis, 279, holds that "the doctrine of mechanical equivalents * * * is not confined by the patent law to those elements which are strictly known as such in the science of mechanics, but that it embraces those substitutions which, as a matter of judgment in construction, may be employed to accomplish the same end." See also, as illustrating the principle of mechanical equivalents, the opinion of Alderson, B., in Morgan *v.* Seaward, Web. Pat. Cas., 170.

We are now in a condition to make the further and final inquiry, whether the defendant has infringed the rights secured to the complainant by his patent No. 190,368.

The two machines, as will be manifest upon reference to the specifications and drawings in the respective patents, are alike in principle, having a stack in each case composed of sections of trays fitting upon and into each other, the outer wall of which makes up and forms the exterior of said stack or drying house; and
222 they are also alike in their purpose and capacity of being moved upward from a point in or on the lowermost tray, and of being suspended in that position, so as to admit the insertion of fresh trays in succession. They are unlike in their respective appliances and devices by which these objects are accomplished, and also in the facility by which intermediate trays between the top and bottom can be removed.

The devices by which the elevation of the stack of trays in the complainant's patent are elevated in the manner described for the purposes mentioned are the cord and pulley, passing over an upright crane regulated by a windlass, or wheel and axle, with its ratchet and pawls, as shown in one model, the point of suspension in this instance being directly over the centre of the stack; and from the ends of the cross-bars, to which the rope passing through the pulley is

attached, depend ropes or chains, which are attached by hooks to handles upon the lowermost tray to be removed, thus contributing both a lifting and suspending device, as shown by this model.

The means adopted in the other model, Complainant's Exhibit C, which the complainant claims is authorized by his patent as within the scope of the powers granted therein, consists of a wooden frame supporting the stack of trays, as before described, said wooden frame sliding up and down grooves in two opposite stationary posts, as power may be applied to move it, and connected by chains to a chain passing over pulleys in two upright posts at opposite sides of the stack, the respective ends of said chains being attached to the short arms of two levers, the fulcrum of each lever being attached to the lower part and outer side of said upright posts, the longer arms of said levers being connected with other chains passing over a drum or shaft regulated by its pawl and ratchet.

By the last-mentioned device the novel and useful invention described in complainant's patent of elevating the stack of trays as aforesaid by the application of power at a point in or on the lowermost tray thereof, so as to permit the insertion of a fresh tray at the bottom, is accomplished.

223 The machine embodying the defendant's invention under letters patent No. 221,056 is illustrated by model, Defendant's Exhibit No. 5, and exhibits the following means for effecting the elevation of the stack of trays and their suspension for the purpose of allowing new trays to be inserted at the bottom, to wit: Four movable uprights, each having a series of pivoted pawls, and arranged to slide in four stationary posts secured in a frame, in combination with a series of boxes or trays having notches in their sides, whereby the boxes may be lifted independently of each other, or all together. The power is applied through the medium of two worms, situated at each end of a drum or shaft extending along the side of, and at least the width of, the stack to be lifted. These worms engage into appropriate cog-wheels affixed to two other drums or shafts, running at right angles to the first-named shaft, on opposite sides of the stack, and extend horizontally the length of the same. Upon each of these last-mentioned shafts are geared, at the ends of the same, small cog-wheels, which in turn gear into vertical rack-bars or the four sliding posts of the machine. The power is applied by means of a crank at the end of the first-named drum or shaft.

Now, here is undoubtedly a contrivance and device by which the novel and useful invention first patented in the Reynolds patent, from whom claimant derived his title, of elevating the stack of trays from a point in or on the lowermost tray thereof, so as to permit the insertion of a fresh tray at the bottom, is accomplished. It matters not whether this device has the capacity of lifting the upper trays in the series, so as to open the same for inspection or for any other purposes. So long as it accomplishes the purpose, or possesses the capacity of moving up the whole series of trays from a point on the lowermost tray of the same, so as to permit the introduction of a fresh tray, it is, in that respect, an infringement of the complainant's patent; nor is this conclusion altered because of any supposed

advantages gained by the greater facility afforded by the Grier patent in opening the stack at any point above the lowermost tray for purposes of inspection or otherwise. Thus Mr. Curtis says, in his Law of Patents (4th ed.), § 311, p. 409: "If it accom-
224 plishes some other advantages beyond the effect or purpose accomplished by the patentee, it will still be an infringement, as respects what is covered by the patent, although the further advantage may be a patentable subject as an improvement upon the former invention."

The court, upon the best consideration it can give to this subject, has come to the conclusion that the defendant in this cause has used, in the elevation and suspension of the stack of trays in his drier, mechanical appliances and contrivances which, while they differ somewhat in form from those used by the complainant, are mechanical substitutes and equivalents for the same.

And in the use of the same for the accomplishment of the same results as those produced by the complainant's invention the defendant has infringed upon the exclusive rights secured to the complainant by his patent No. 190,368.

And the court shall so adjudge, order, and decree.

E. G. BRADFORD,
U. S. Dist. Judge.

Endorsed on cover: Delaware C. C. U. S. No. 148. George S. Grier, appellant, *vs.* John F. Wilt. Filed 12th October, 1883.

120-412

JAN 4 1887

Supreme Court of the United States.

OCTOBER TERM 1886.

No. 148.

GEORGE S. GRIER, Appellant,

vs.

JOHN F. WILT, Appellee.

BRIEF ON BEHALF OF APPELLANT.

F. O. McCLEARY,
Counsel for Appellant.

THOMAS McGILL & CO., Law Printers, Washington, D. C.

Supreme Court of the United States.

October Term 1886.

GEORGE S. GRIER, Appellant,
vs.
JOHN F. WILT, Appellee. } No. 148.

Appeal from U. S. Circuit Court for the District of Delaware.

BRIEF FOR APPELLANT.

Statement of the Case.

This suit is for an alleged infringement of complainant's letters-patent for an improvement in fruit-driers.

The Complainant's Patent.

On the 1st of May, 1877, letters-patent No. 190,368 were issued to Asa Q. Reynolds for an improvement in fruit-driers.

By an assignment from Reynolds dated June 11th, 1877, the title to the said letters-patent passed to the Automatic Fruit Evaporator Company, Limited, which company, under date of January 24th, 1878, transferred the entire title to the letters-patent to William W. Fenner, and said Fenner, under date of May 31st, 1878, by assignment, passed the title in and to the patent to John F. Wilt, the complainant.

The object of the invention described in complainant's

patent was "to simplify the construction of the fruit-driers in common use, both for domestic and factory purposes, reducing the cost, increasing the efficiency, and rendering them easier to be manipulated, and at the same time fire-proof, and capable of being enlarged or contracted at the pleasure of the operator."

The specification adds to the above explanation the following statement of invention, to wit: "To accomplish all of which it (the invention) *consists in certain details of construction* and combinations of parts, as will be hereinafter fully described and then pointed out in the claims." (The italics are those of counsel.)

The complainant's patent describes a very simple drying apparatus, consisting of a drying chamber, formed by placing a series of trays or sieves one upon the other, and a crane, rope, and windlass for raising the whole series of trays from the bottom. (See drawings between pp. 26 and 27 of Record.)

In using the apparatus a single tray is filled with green fruit and placed upon an iron ring or support located upon a stove. After the fruit contained in this tray has been heated for a few minutes the ropes suspended from a frame, "C," (see Fig. 3 of drawing between pp. 26 and 27 of Record.) are attached to the handles of the tray, and by means of a rope, "B," (same drawing,) the frame is raised sufficiently to permit a second tray to be placed upon the iron ring beneath the first tray. The latter is then lowered to rest upon the second tray. The second tray is in like manner elevated to permit the introduction beneath it of a third tray, and so on until the stack of trays is built to any desired height. *It will be noted that after each raising of the trays* the ropes must be detached from the tray to which they are secured so that they may be attached to the bottom tray, *i. e.*, the tray last introduced.

The only claim of the complainant's patent which it is

alleged the defendant has infringed is claim 4, which reads as follows:

"In combination with a fruit-drier, the outer wall of which is made up of the frames of the several trays, as explained, a suspending device, operating substantially as described, and supporting said drier from a point in or on the lowermost tray thereof, for the objects named."

In terms the above-quoted claim covers two elements, to wit (1), a fruit-drier of special construction, and (2) a suspending device adapted to be operated in a specified manner.

The Defendant's Machine and Patent.

The defendant Grier, under date of October 28, 1879, obtained letters-patent No. 221,056 for a fruit-drier.

The drawings of the Grier patent (between pp. 30 and 31 of Record) show only a side elevation and a partial section of the drier (with detail views); and to aid the court in readily understanding the construction of the Grier machine, two enlarged views have been prepared and bound as a part of this brief.

Grier employs four stationary corner-posts, B; four movable uprights, I, secured to slide upon the posts B by rods *m* and eyes *i*; four rack-bars, *n* (one on each movable upright;) four series of pawls, *h*, secured upon the uprights I, and adapted to enter notches *x* formed in the sides of the trays; two horizontal shafts, H, supported in bearings on the corner-posts B; four gear-pinions, *p*, arranged upon the shafts H; a main-shaft, K; two worms, J; two gear-wheels, L; and two hand-wheels on the shaft K.

The operation of the Grier device is substantially as follows: The drier is placed over a heater, and a single tray containing fruit is placed in position within the space bounded by the four posts B. The four lowermost pawls of the series are then thrown into engagement with the notches in the tray. By then turning the shaft K (by means of its

hand-wheels) the worms J mesh with the gear-wheels L of the two shafts H to turn the latter. The gear-pinions *p* being in gear with the racks *n* of the movable uprights I, the latter are simultaneously raised, carrying with them the pawls and the tray supported thereby.

A second tray is then inserted below the first one, and the elevating mechanism is reversed to lower the first tray upon the second. In thus lowering the first tray, its pawls are disengaged, and caused to engage the second tray, the first tray being engaged by the second set of pawls. And the operation is continued until a stack of the desired height is built up, the first tray being successively supported by each set of pawls, and the elevating mechanism being reversed at each insertion of a new tray.

The important point of novelty in defendant's patent is the elevation of each tray of the series *independently of the others*. Each tray is raised and supported by its own pawls as distinct from imposing the whole weight of the stack of trays upon the lower tray as in the complainant's patent.

The Defense.

The defendant has relied upon the ground of non-infringement.

The Decree of the Court Below.

The alleged infringement relates only to claim 4 of complainant's patent, and the court below found that the defendant infringed said claim; and this appeal is from that finding.

Assignment of Errors.

The appellant believes the judgment of the court below to be erroneous for the following reasons:

1. Because the fourth claim of the patent sued on is not entitled (in view of the state of the art, as disclosed by the

record) to the broad construction accorded it by the opinion of the court.

2. Because the defendant's mechanism for elevating and supporting the trays of his machine is not the mechanical equivalent of that shown in the complainant's patent, but substantially different therefrom.

3. Because the court, in construing claim 4 of complainant's patent, was misled by a reservation in the specification of said patent.

Argument.

1.—THE FOURTH CLAIM OF THE REYNOLDS PATENT IS NOT ENTITLED TO THE BROAD CONSTRUCTION GIVEN IT BY THE COURT.

For the purpose of showing the state of the art prior to the date of the Reynolds invention the defendant offered in evidence certified copies of the following patents, to wit:

No. 48,733, granted to Adam Snyder July 11, 1865 (Defendant's Exhibit No. 3, Record, p. 68.)

No. 108,289, granted to Joseph B. Okey and F. A. Lehr, assignee, October 11, 1870. (Defendant's Exhibit No. 2, Record, p. 65.)

No. 155,286, granted to J. O. Button September 22, 1874. (Defendant's Exhibit No. 1, Record, p. 62.)

The Snyder and Okey patents both clearly show and describe a fruit-drier consisting of a series of trays arranged one above the other so that the frames of the trays ~~from~~ form the wall of the drier, or, to use the language of the fourth claim of Reynolds, each of said patents shows "a fruit-drier the outer wall of which is made up of the frames of the several trays."

It is true that the Snyder patent shows a drier consisting of only "three chambers," but the patentee states at the

close of his description (Record, p. 71) that "it is evident that the chambers may be increased in number at pleasure."

However, the opinion of the court (Record, p. 107) states that "it is not contended that the patentee (Reynolds) is the inventor of the movable trays the outer walls of which constitute the dry-house. It is admitted the existence of such trays for such purpose is old in the art."

The opinion then continues as follows: "But the complainant contends that the patentee is the originator *of an idea*, which is a novel and useful one, of raising the stack of trays from a point on the lowermost tray of the stack, thus making an opening for the insertion of a fresh tray containing fruit, and in this manner building the stack up from the bottom instead of from the top. *This is accomplished by arrangements and devices shown and described in his drawings and specifications.*"

On behalf of appellant it is respectfully urged that the above-quoted statement is unwarranted and incorrect.

Reynolds *was not* "the originator" of the broad idea explained, inasmuch as the patent to Button ("Defendant's Exhibit No. 1," Record, p. 62) fully shows and describes such "idea."

The Button patent was issued in 1874, nearly three years prior to the filing of the application for the Reynolds patent, and fully anticipates the broad idea "of raising the stack of trays from a point on the lowermost tray of the stack, thus making an opening for the insertion of a fresh tray containing fruit, and in this manner building the stack up from the bottom instead of from the top."

The Button machine (Record, p. 64) shows a series of racks (*dd*) arranged within a chamber or "shell" (A). A movable platform or frame (C) is arranged within the drying-chamber over the hot-air furnace, and beneath this frame are fulcrumed cam-levers (G G), the latter being connected by a rod (*a*) and a handle or bail (*b*).

At each corner of the frame or "shell" (A) is arranged a spring-catch (*e*) for supporting the racks after they are elevated. "The racks are inserted through a door (H) immediately above the frame C, one by one, and each one separately elevated by the levers G until it is held by the catches *ee*; and the next rack when it is elevated raises the first one, and so on, until the racks can be taken out, one by one, at the top through the door I."

The frames of the trays in the Button patent rest one upon the other, and they constitute a chamber for the heated air.

The three patents to Snyder, Okey, and Button conclusively show—

(*a*) That *it was old prior to the Reynolds invention* to construct a fruit-drier by arranging a series of trays, one upon the other, so that the frames of the trays would constitute the outer wall of the drier.

(*b*) That it was old prior to the Reynolds invention to combine with such a series of trays mechanical devices for raising the trays from the bottom.

In view of the state of the art as disclosed by the patents of record in this case, it must be admitted that the Reynolds fourth claim covers only the combination of two elements, one of which is admittedly old, to wit, (1) a series of trays, whose frames constitute the wall of the drier; and the other of which is not broadly new, to wit, (2) a suspending device for raising the trays.

What result did Reynolds accomplish by thus combining these two devices? His result was, that he could raise the trays from the bottom so that a new tray could be inserted beneath those raised.

Was that result a new result? For an answer to that inquiry we may turn to the drawings found between pages 62 and 63 of the Record, and to page 64 of the Record,

where we find the following description of the operation of the Button device of 1874:

"The racks are inserted through a door, H, immediately above the frame C, *one by one*, and each one separately elevated by the levers G till it is held by the catches *e e*, and *the next rack, when it is elevated, raises the first one, and so on until the racks can be taken out one by one* at the top through the door I."

It is a fact that long prior to the Reynolds invention a series of trays in a fruit-drier had been raised from below by mechanical means, and suspended in such raised position to permit the insertion of a new tray below those already raised.

In other words, it was old and well known prior to Reynolds' invention to build up a stack of trays from the bottom by the aid of mechanical devices.

This court, in the case of Blake *v.* The City and County of San Francisco *et al.* (31 O. G., 880), said:

"When the public has acquired in any way the right to use a machine or device for a particular purpose, it has the right to use it for all the like purposes to which it can be applied; and no one can subsequently obtain a valid patent to cover the application of the device to a similar purpose unless a new and different result is obtained, which result will not be deemed as new or different if it is the same in character as the old result."

In the case at bar it is admitted that one element of the fourth claim was not new with Reynolds, to wit, the series of movable trays.

The court below said (p. 107 of Record):

"It is not contended that the patentee is the inventor of the movable trays the outer walls of which constitute the dry-house."

The only other element named in said fourth claim is "a suspending device." The only suspending device

shown in Reynolds' drawing is a crane and a rope or chain running over it and controlled by a windlass. Such an elevating device is nearly as old as the wedge or screw. It is not used in the Reynolds patent for any purpose different from its well-known purpose; but Reynolds' result "is the same in character as the old result."

If Reynolds had been the first one to raise a series of trays from the bottom to permit a new tray to be inserted below, or had originated the broad idea of building up a stack of trays from the bottom, the application of the old well-known crane device to a series of trays might have been considered "a new and different result."

The court below said (Record, p. 107): "The complainant contends that the patentee *is the originator of an idea, which is a novel and useful one*, of raising the stack of trays from a point on the lowermost tray of the stack, *thus making an opening for the insertion of a fruit-tray* containing fruit, and in this manner *building the stack up from the bottom instead of from the top.*"

Clearly, in according such scope to Reynolds' invention, and in making the unqualified statement that Reynolds was "the originator of an idea," which consisted in building the stack of trays up from the bottom, the court must have entirely overlooked the patent to Button, which is a part of the record, and which, beyond all doubt, fully describes such "idea," and claims the mechanism for for carrying it out.

Claims must be construed in view of the state of the art at the date of the invention.

Washington Machine Co. *v.* Tool Co., 20 Wall., 342.

Pitts *v.* Wemple, 1 Biss., 87.

A patentee's invention cannot be given a broad construction so as to cover later inventions when it appears

from the state of the art that there was no opportunity for a great original discovery, and the claim is properly limited to the specific improvement.

Root *v.* Lamb, 7 Fed. Rep., 222.
See, also, Jones *v.* Barker, 11 Fed. Rep., 597.
Washburn & Moen Mfg. Co. *v.* Hursh, 10 Biss., 65.

Another important point, not referred to heretofore, is found in the fact that the Reynolds fourth claim calls for a "suspending device," while the defendant's patent uses mechanism, which is not, strictly speaking, a "suspending device." Webster defines the word "suspend" as follows: "To attach to something above; to hang; as to suspend a ball by a thread; to suspend the body by a cord, or by hooks."

It being shown that, in view of the Button patent, complainant's fourth claim is entitled to only a limited construction, it seems proper to suggest that the language of the claim should be closely scanned and defined.

2.—THE DEFENDANT'S MECHANISM FOR ELEVATING AND SUPPORTING THE TRAYS OF HIS MACHINE IS NOT THE MECHANICAL EQUIVALENT OF THAT SHOWN IN THE COMPLAINANT'S PATENT, BUT IS SUBSTANTIALLY DIFFERENT THEREFROM.

The Doctrine of Equivalents.

The court below said:

"Where a person procures a patent for the building of a machine, which produces certain results *which are novel and useful*, by means of certain mechanical contrivances and appliances, any person who attempts to accomplish the same results *by mere substitutions, which are equivalents* of the means employed by the first patentee, is an infringer?

"Any application of known mechanical powers which will produce that result, *although different in form* from the means employed by the original patentee, is a mechanical substitute and equivalent."

It is submitted on behalf of appellant that the court below erred in supposing that the case before it fell within the rules above prescribed.

It has been shown that Reynolds did not produce results "which are novel and useful." He simply produced the result which Button produced in 1874—of building up a stack of trays from below instead of from the top.

The defendant Grier has not attempted to accomplish the same old result "by *mere substitutions which are equivalents* of the means employed" by Reynolds.

Reynolds shows as his suspending device *an ordinary crane.* He employs a swivel-joint ("D," Figs. 1 and 2 of his drawing) to connect the elevating rope with suspending ropes. He also employs a ring, M, to receive the lowermost tray. Without examining the expert testimony, it may be fairly said that Grier's devices are widely different from those above described.

Reynolds supports all of his trays—the entire stack—in raising upon the lowermost tray, thus imposing upon the latter the weight of all the fruit in the drier.

Grier's *primary object* was to support each tray independently of the others; and this elevating mechanism was designed to that end. He states in his specification (p. 32 of the Record): "It will be noticed that with my mechanism I lift each box independently of the others."

Grier forms notches in the opposite sides of each tray or box. He provides four stationary-posts and four movable posts, the latter so connected to the former as to permit the movable posts to freely move up and down. These movable posts are provided with pawls, which enter the notches of the trays so that each tray is supported by its own pawls. Two parallel shafts, H, are employed, carrying cogged pinions near each end to engage racks secured to the movable posts. The shafts H each have at one end a spur-wheel, and both shafts H are simultaneously revolved by a shaft,

K, provided with worms, J, which drive the spur-wheels of the shafts H, thus causing the cogged pinions of the shafts H to engage the racks upon the movable posts and elevate the latter. The pawls being secured to these movable posts and engaging the notches of the trays, of course elevate the latter.

To say that such a complicated and ingenious combination of devices is the same as an ordinary crane is, we think, to ignore the legal definition of "mechanical equivalents."

It is obvious that inventive thought was used in devising Grier's combination of parts. In addition to its radical difference in construction from the Reynolds device, it is manifestly different in function and result, since it raises each tray independently and supports each tray independently, as contradistinguished from imposing the weight of the whole series of trays and their contained fruit upon the lowermost tray, which is a limitation of Reynolds' fourth claim.

It is admitted (as has been heretofore shown by a quotation from the court's opinion) that there was no novelty in the particular construction of the Reynolds trays. The alleged novelty is in the combination with such old trays of "a suspending device operating substantially as described, and supporting said drier from a point in or on the lowermost tray thereof."

The patentee Reynolds evidently meant to cover by the comprehensive language used *any suspending device.* But it has been shown that the claim cannot be so construed, in view of the fact that *a suspending device* for the same purpose and in the same combination is shown in the Button patent.

The court below evidently did not believe the fourth claim of Reynolds' patent to be entitled to such broad construction, since the court resorted to the doctrine of equivalents in finding Grier to be an infringer.

The opinion (Record, p. 109) contains the following language:

"Has the defendant Grier substituted machinery and devices in his machine which are the mechanical equivalents of the mechanism and devices employed by the complainant to accomplish the same result in the elevation of the stack of trays, from a point in or on the lowermost tray thereof, so as to permit the insertion of a fruit tray at the bottom?"

If Reynolds' claim 4 covers *any and all* suspending devices, and Grier used *a* suspending device (of whatever construction), why invoke the doctrine of equivalents? The doctrine being resorted to, we must necessarily confine our consideration to the question as stated by the court, *i. e.*, Are Grier's devices the mechanical equivalents "of the mechanism and devices *employed by the complainant*," &c?

We have seen, by reference to the complainant's patent, that his suspending device (and the only one described or shown in his patent) consists of a crane, a rope and windlass, and "cross-bars C" and "chains G."

The elevating and supporting mechanism of the defendant is particularly adapted for the elevation and support of the trays *independently*, as distinct from imposing the weight of all the trays upon the lowermost tray. The trays themselves must be notched on opposite sides to receive the pawls, and the whole, including the trays, constitutes a legitimate combination of devices, and, we believe, a novel and patentable combination. Nothing is found in the record to show that the combination was not entirely novel with the defendant, and we respectfully urge that the combination was not a known equivalent of a crane, rope, and windlass at the date of the Reynolds patent.

We submit that the Circuit Courts and this Court have repeatedly held in substance that an equivalent is such an element or ingredient as will perform the same function

as the one described in the patent, and *which was well known at the date of the patent as a proper substitute for the one described in the patent.*

Storrs v. Howe, 4 Cliff., 388.
Smith *v.* Downing, 1 Fish., 64.
Welling *v.* Rubber Harness Trimming Co., 7 O. G., 606.
Webster *v.* New Brunswick Carpet Co., 5 O. G., 522.
Gill *v.* Wells, 22 Wall., 1.
Fuller *v.* Yentzer, 4 Otto, 299.
Stimpson *v.* The B. & S. R.R. Co., 10 How., 329.
Schmidt *v.* Freese, 12 Fed. Rep., 563.

The so-called "doctrine of equivalents" is based upon the equitable theory that a patentee should be guarded against mere colorable evasions of his claims and trifling mechanical variations in the details of his devices.

It was never intended as a bar to the progress of invention, and the patentee of an improvement on a prior invention cannot invoke the doctrine of equivalents to suppress other inventions which are not mere colorable evasions of the first.

Burden *v.* Corning, 2 Fish., 477.
Seymour *v.* Osborn, 3 Fish., 555.

Where a patentee is not a pioneer in his line, but simply an improver, he cannot broadly invoke the doctrine of equivalents to cover devices not specifically claimed by him.

Tobey Furniture Co. *v.* Colby, 34 O. G., 1276.

3.—ARE THE STATEMENTS OF FACT MADE BY THE COURT BORNE OUT BY THE RECORD?

The court evidently believed that the expression "substantially as described" in claim 4 of complainant's

patent had some limiting or qualifying effect upon the claim, for the opinion states (Record, p. 108):

"Referring to the drawings and specifications for the meaning of the words 'substantially as described,' as applied to the term 'suspending device,' in said claim, we find that the complainant does not confine himself to the precise means indicated by the words of the claim, for he expressly says: 'And I desire to be understood as not limiting my invention * * * to any particular method of suspending the same,' *referring to the means of suspension of the stack*, as well as to the wheels of the drier."

Turning now to the specification of complainant's patent just before the claims (Record, p. 29) for a substantiation of the above statement, we find that the words from the specification quoted by the court *had no reference to the mechanism for suspending the stack of trays*, but only to the means for suspending a flutter-wheel beneath the lower tray of the stack—a feature not found in defendant's machine—for the language of the specification is as follows:

"These wheels have now come to be denominated 'flutter-wheels,' and I desire to be understood as not limiting my invention to any particular number to be employed to any specified location of said wheels in the drier, *or to any particular method of suspending the same*, so long as they are made to revolve independently of the trays, and to accomplish the results intended."

Clearly the words "or to any particular method of suspending the same" apply solely to the fan-wheels, *and not to the means for suspending the trays*, as the court states, and the opinion of the court is undoubtedly erroneous in so far as it is based upon such an erroneous application of the patentee's language.

However, it matters little what sweeping reservations are made by a patentee, since the prior state of the art must, in a great measure, fix the scope of valid claims.

Summary.

1. It being shown that Reynolds was not the pioneer in his line—not the originator of the broad idea of building up a stack of fruit-trays from the bottom by using elevating and suspending mechanism—his fourth claim should be restricted to the specific devices described and shown in his patent.

2. Reynolds, standing, as he does, in the same position as the defendant, *as an improver upon the Button fruit-drier of* 1874, is entitled only to such a construction of his fourth claim as will protect him in the use of the specific devices shown and described in his patent.

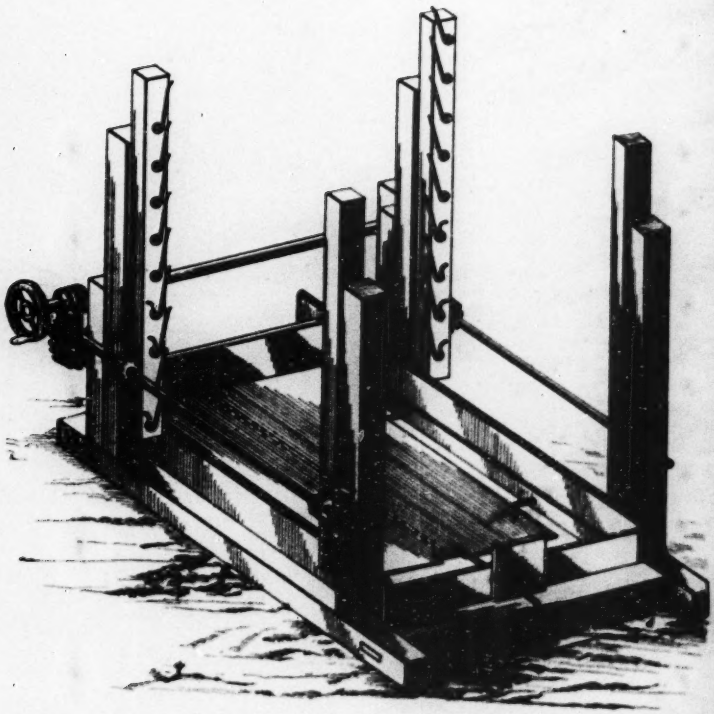
3. The defendant having invented and patented an organization of devices, a legitimate and apparently novel combination of parts *not known at the time of the Reynolds invention*, should not be held to have simply substituted one *well-known* mechanical device for another; and the result of his work as an inventor, being an effective and new combination of devices, should not be held to be the equivalent of an elevating-rope thrown over pulleys on an ordinary crane.

A reversal of the decree below is asked.

Respectfully submitted.

F. O. McCLEARY,
Counsel for the Appellant.

Perspective view of Defendants machine with trays removed.



Supreme Court of the United States,

OCTOBER TERM, 1886,

No. 146.

GEORGE S. GRIER,

Appellant,

vs.

JOHN F. WILT,

Appellee.

BRIEF FOR APPELLEE.

SAML. A. DUNCAN,
Counsel for Appellee.

Supreme Court

OF THE UNITED STATES.

OCTOBER TERM, 1886.—No. 148.

GEORGE S. GRIER,
Appellant,

v.

JOHN F. WILT,
Appellee.

BRIEF FOR APPELLEE.

Statement of the Case.

This is an appeal from a final decree of the Circuit Court of the United States, for the District of Delaware, adjudging Letters Patent No. 190,368 granted to Asa Quincy Reynolds, and afterward assigned to the appellee, to be valid; adjudging the appellant to have infringed said Letters Patent, directing him to pay certain damages and costs, and granting a perpetual injunction.

The bill is in the usual form and alleges the granting of Letters Patent No. 190,368 for a new and useful improvement in automatic fruit driers to Asa Quincy Reynolds on May 1, 1877, the assignment of the said Letters Patent by *mesne* assign-

ments to the complainant, and the infringement of the same by defendant, and prays for an injunction and an accounting. (Rec., fols. 2–13.)

The answer admits the granting of the Letters Patent to Reynolds (Rec., fol. 17); admits "that the "said Reynolds is entitled to be acknowledged, so "far as this defendant is informed or believes, to "have originated whatever inventions or improve- "ments are embraced in the claims made and speci- "fied and set forth in his specifications and claims" (Rec., fol. 22), but "avers that the alleged invention "or improvement embraced in said Letters Patent "No. 190,368 is not useful" (Rec., fol. 23); denies any knowledge or information as to the assignment of said Letters Patent to the complainant; admits that the defendant has constructed, used and sold certain machines for drying and evaporating fruit, but alleges that the same were made in strict conformity with his own Letters Patent No. 221,056, dated October 28, 1879, and denies infringement of complainant's patent. (Rec., fols. 16–28.)

A replication was filed in the usual form. (Rec., fols. 29, 30.)

Proofs were taken by both parties, and after argument at final hearing an interlocutory decree was entered adjudging that the patent in suit was valid, that the title to said patent was vested in the complainant, and that the fruit driers made, used and sold by the defendant were an infringement of the same, awarding a perpetual injunction and referring the case to a Master for an accounting of profits and damages. (Rec., fols. 140–143.)

An accounting was had before the Master who found that the profits realized by the defendant from the manufacture, use and sale of the machines adjudged to infringe complainant's patent were $1,918.77. (Rec., fols. 203–205.)

No exceptions were taken to the Master's report.

A final decree was entered in the Circuit Court in favor of complainant for profits, damages and costs in conformity with the Master's report, and a per

petual injunction was granted. (Rec., fols. 206–210.)

From this decree the defendant appealed to this Court.

Brief of Argument.

THE PATENT IN SUIT.

This patent relates to apparatus for drying fruit, by passing currents of heated air over or through the material to be dried, and the invention covered by it consists in certain improvements upon devices previously used for such purposes.

The patentee states that it is the object of his invention to "simplify the construction of the fruit "driers in common use both for domestic and "factory purposes, reducing the cost, increas- "ing the efficiency and rendering them easier to be "manipulated and at the same time fireproof, and "capable of being enlarged or contracted at the "will of the operator." (Rec., p. 27.)

There were two forms of such apparatus in use, at the date of patent, in which the fruit to be dried was placed on movable trays.

In one of these the trays were supported within an inclosing structure known as a dryhouse, the walls of which served to confine and direct upon the contents of the trays, currents of heated air supplied from a furnace underneath the apparatus. Such a structure is shown in the patent to Button, page 63 of the record. This form of apparatus was adapted for factory use in drying fruit in large quantities.

In the second form of apparatus the dryhouse as a separate structure was dispensed with, and the trays were so constructed that when placed one upon the other their sides formed a substantially continuous flue confining the heated air supplied from below and causing it to pass upward through the perforated floors of the various trays and about and through the material contained in them.

This latter form of drier is shown in the patents of Okey and Snyder, page: 66 to 71 of the record, and was intended for domestic use in connection with an ordinary cooking stove. It was obviously incapable of practical use on any large scale, such as is required for factory purposes, on account of the difficulty of manipulating by hand very large trays placed together in this way, or any considerable number of small ones.

The invention in controversy relates to this latter form of apparatus, which the patentee adapted for use for factory purposes and rendered more efficient and convenient for domestic use by combining with a large stack of trays, built up as above indicated, a device for mechanically lifting and suspending the stack so that additional trays might be successively inserted at the bottom and the fresh fruit be kept nearest the furnace and subjected to a greater degree of heat than that partially dried.

For a copy of the patent in suit, see pages 25 to 30 of the record.

The fourth claim of the patent was the only one in controversy below and is the only one that need be considered here.

The gist of the invention described in the specification and referred to in this claim is well stated in the opinion of the Court below, as follows:

"This patent is for an improvement in automatic fruit driers, and its peculiarity and novelty consist in mechanical arrangements and devices by which a stack of trays, fitting into each other, the outer edges of which constitute the outer side of the stack of trays, or drying house, are moved upwards and suspended by attachments to the lower tray in order that a fresh tray of fruit can be inserted at the bottom and the process repeated at pleasure, thus building up the drying house or stack from the bottom."

Appellee's Title.

The ownership by appellee of the patent in suit was duly proved and was not controverted by appellant.

Rec., pages 13 and 14. Testy. McFarland, Q. 7, Rec., page 24.

The Appellant's Apparatus.

There is no dispute as to the construction and mode of operation of the apparatus made and sold by the appellant, which is described in the Grier Patent, pages 30-33 of the record.

It consists of a stack of trays fitting into each other so that the outer edges of the trays constitute the outer side of the drying house and a device for raising, suspending and lowering the entire stack so that fresh trays may be inserted below and the stack thereby built up from the bottom. There is no separate dryhouse or enclosure.

The stack of trays is substantially identical in the two forms of apparatus, but the lifting and suspending devices differ somewhat in mechanical construction. The lifting and suspending device shown in the patent in suit consists of ropes or chains operated by a windlass and provided with hooks for attachment to the handles of the trays; in the appellant's apparatus the lifting and suspending device consists of a series of pawls engaging with one or more of the trays and a system of rack and screw gearing operated by a crank for moving all the pawls simultaneously, upward and downward as desired.

The appellant's apparatus is intended to operate, and is in fact operated in practice in the manner set forth in the patent in suit, to wit: The suspending device is applied from time to time to lift the entire stack of trays high enough to permit another tray to be inserted at the bottom and to hold the stack

in suspension during such operation, and when the additional tray is inserted the entire stack of trays above is lowered upon it and the lifting and suspending device is attached to it so as to carry it up with the rest at the next operation. The trays are taken off in succession at the top as set forth in the patent in suit. (Testy. deft's witness Williams, Q. 24, 25, Rec., page 45.)

(See appellant's patent, Rec., pages 31–33.)

Infringement.

The claim in controversy is not in terms limited to any particular form or construction of the suspending device, nor is the particular construction of such device shown in the patent material so far as the purposes of this invention are concerned. It is necessary for the purposes of the invention that there should be some appropriate mechanical device employed for applying the requisite mechanical power to lift the stack and hold it in suspension when desired, for the purpose of inserting additional trays, and to lower the stack upon the tray so inserted, and the construction and assignment of the parts should be such as not to interfere with the inspection of the stack at any point, but the details of construction and the particular mode of operation of such device form no necessary or material part of the invention, so long as the essential functions of this part of the apparatus are properly performed.

It appears from the evidence taken by the appellee that all of the essential functions of the lifting and suspending device of the patent are performed by the mechanical appliance used by appellant, and in substantially the manner required by the patent. (Testimony of Pierce, questions 7, 8, 12 and 13; Rec., pp. 15–17.)

Appellant's witnesses do not contradict this, but merely attempt to show that the two devices differ

in mechanical structure, and that the device used by appellant is capable of performing other functions in addition to those set forth in the patent. In the device shown in the patent, the lifter takes hold of the lower tray only, while in the appellant's apparatus the lifter is provided with a series of pawls which may or may not be made to engage with the upper trays as well as the lowermost. Whether the upper pawls are in engagement or not in the lifting operation is wholly immaterial, as the result is the same in both cases, and the entire stack is carried up when the lifter is operated, and held in suspension for the insertion of a fresh tray.

It is also claimed by appellant that in his apparatus, by using the upper lifting panels alone, the stack may be more readily opened for inspection than with the device shown in the patent.

Testy. Williams, questions 10–14.
Testy. Latimer, questions 15–20.

These differences were clearly immaterial, and the Court below rightly held that the appellant's lifting and suspending device was a mechanical equivalent of that shown in the patent.

The appellant's apparatus may be an improvement upon that of the patent by reason of his peculiar form of lifting device affording a more convenient means of breaking the stack, and inspecting or shifting intermediate trays, when desired, but it is none the less an infringement for that reason.

The appellant seems to have relied for his defense mainly upon the fact that a patent has been granted to him for his improvement, and that his apparatus has been made in strict conformity to his patent.

It is too elementary a principle of law to require argument here that the grant of a patent does not confer upon the patentee any right to use inventions, previously patented by others, which may be included in, or form elements of, the apparatus he has patented.

Validity of the Patent.

The appellant expressly admits in his answer the novelty of the combination of devices set forth in the patent and referred to in this claim (Rec., fol. 22).

In view of this admission, and the failure to set them up in the answer, the various prior patents put in evidence by the appellant cannot be considered upon the question of novelty. Seasonable objection to the introduction of this evidence was made by the appellee (Rec., fol. 74).

As a matter of fact, however, none of the prior patents or publications disclose the invention in controversy or any substantial part of it.

The appellant avers that the invention or improvement covered by the patent is not useful, but such an averment comes with very bad grace from one who is using the patented device and who has made considerable profits from such use. The use of the invention by the appellant is of itself, at least so far as this controversy is concerned, conclusive evidence of its utility.

> Lehnbeuter *v.* Holtaus, 105 U. S., 94.
> Whitney *v.* Mowry, 4 Fish., 207.

No evidence was introduced by the appellant on this point and the grant of the patent places the burden of proof as to utility upon him. (Id.)

The patentability of the invention in controversy was not discussed in the opinion of the Court below, and this was doubtless because this branch of the case seemed too clear to require serious argument.

The claim in suit is not a broad one, but is limited to the combination of a particular form of drying stack built up of superposed trays in the manner described, with a suspending device adapted to operate upon the stack to lift it, hold it in suspension and lower it in the manner described.

The only instance prior to Reynolds' invention in which a mechanical lifting device of any form is

shown in connection with the trays of a fruit drier is found in the Button patent, page 63 of the record.

There is no proof that any machines of the Button type were ever used and if any evidence of such use could have been obtained, the appellant would, no doubt, have introduced it. It is evident indeed, from the description of the apparatus, that it had serious defects which would have prevented its successful use, and that the large commercial success of the Reynolds' apparatus of the patent was, in a great measure, due to the elimination of these defects by the different construction and arrangement of the parts which Reynolds devised and which form the subject matter of the claim in controversy.

In Button's apparatus, the lifter is different in construction from the suspending device of Reynolds' apparatus; it is applied and operated in a different manner; it is not capable of performing all the functions or producing all the results of Reynolds' device; and the drying apparatus in connection with which it is shown, differs materially in structure and mode of operation from Reynolds' stack of trays.

Button proposed to elevate a series of trays enclosed in a dryhouse constituting a structure distinct from the trays, by successive steps, introducing trays of fresh fruit at the bottom, and taking out the trays of dried fruit at the top. For this purpose the undermost tray is supported upon a movable platform provided with levers for raising it, and thereby forcing up the whole series of trays; and fixed catches are arranged on the interior walls of the dryhouse to support the trays and prevent them from descending when the platform is depressed. The trays are open at the sides, and they do not of themselves form a flue or chamber, but *the walls of the dryhouse necessarily enclose them on all sides for the entire height of the stack, so that none of the trays except that at the top can be inspected or taken out.* After a tray is once in-

serted, it is cut off from observation, and has to be carried up through the whole length of the chamber before it can be taken out or the operator can even ascertain whether its contents were drying too fast or too slowly.

It is obviously very desirable that the operator should be able to inspect any or all of the trays during the process of drying, and to take out any of the intermediate trays in case their contents are drying too fast. The desirability of this is insisted upon by appellant in his patent and the testimony of his expert.

See Grier patent, Rec., page 32.
"Testy Williams," page 40, Q. 3 and page 52, R. Q. 7.

Reynolds provided for this in the apparatus of the patent in suit by making use of a form of drying apparatus in which there was no enclosing dry-house, but in which the walls of the drying chamber were formed of the sides of the superposed trays so that the stack could be opened at any point for inspecting or removing the contents of any tray, and by combining with this a form of lifting and suspending device which did not cover the sides of the stack or interfere with such inspection at any point, but on the contrary might be so used as to facilitate it.

It is obvious that Reynolds' stack may be opened at any point, which is not true of Button's dry-house, and that the ropes or chains of the Reynolds' suspending device do not in any way prevent or interfere with so opening the stack, as does the enclosing chamber supporting the sustaining catches of the Button device.

The two parts of the patentee's combination are thus specially adapted for use with each other for producing the desired mode of operation, and by combining them the patentee produced a new result which had not been produced, and could not be produced by any of the previous organizations, to wit: effecting mechanically the manipulations of a stack

of trays necessary for building such a stack up from the bottom and thereby keeping the trays of fresh fruit nearest the fire, and at the same time leaving the stack exposed to view throughout its entire length and free for inspection and adjustment at any point.

One of the necessary functions of the Reynolds' suspending device cannot be performed at all by the Button lifting device, to wit: lowering the entire upper part of the stack upon the tray inserted at the bottom. This is a necessary function of Reynolds' device because the sides of the trays form the walls of the flue, and if the stack were not lowered so as to rest upon the undermost tray and close up the opening between such tray and the one above it, the flue would not be continuous and the apparatus would be inoperative.

In the Button drier the trays can not be lowered after the fixed catches have once taken hold of them, and such lowering is not only unnecessary for the purposes of the Button apparatus, as the trays are enclosed in a separate dryhouse, but it would be wholly incompatible with its mode of operation.

The appellant's lifting and suspending device differs from that of the Button patent in precisely the same points as the Reynolds' lifting and suspending device.

It is made in skeleton form so as not to cover the sectional walls of the stack or interfere in any way with inspection or manipulation of any of the intermediate trays, and it operates to lower the stack as well as to lift it and hold it up. It is in practice operated to lift the stack for the insertion of a fresh tray, to hold it up during such insertion, and to lower it bodily upon the tray inserted, precisely in the manner described in the patent in suit, instead of to carry the trays continuously upward as in the Button apparatus.

See appellant's Grier patent, Rec., page 31 and testy. appellant's witness Williams, page 45, xQ. 22 to 25.

It is obvious from an inspection of Reynolds' apparatus that the suspending device shown may readily be applied, so as to lift any part of the stack less than the whole, and thereby facilitate the opening of the stack for inspection or alteration, by merely shortening the suspending ropes or chains and attaching them to one of the upper trays.

Testy. Pierce, Rec., page 23, Q. 47 and 48.

Although appellant's experts attempt to deny this, they are forced to admit it upon cross-examination.

Testy. Williams, Rec., page 50, xQ. 56 to 64.

Testy. Latimer, Rec., page 50, xQ. 15 to 18.

This is an advantage of Reynolds' device not mentioned in his specification, but it is in fact characteristic of his apparatus, and it is also characteristic of appellant's apparatus, but is not found in the prior device of Button.

Another advantage common to the apparatus of the patent and the appellant's apparatus, but not found in the Button apparatus, is that in both the former the capacity of the apparatus and the length of time during which the material in the upper trays is subjected to the drying process, may be varied at will without changing the time during which the first tray is over the fire, by merely varying the number of trays in the stack, while in the Button device this is fixed once for all in the construction of the enclosing dryhouse and cannot be varied.

The undisputed commercial success of the Reynolds' apparatus, as shown by the testimonials of users put in evidence without objection as to the competency of such evidence (Rec., pages 22, 24, 33–39), and by the large profits made by the appellant from the use of the invention for a very limited

time, also shows that the differences between apparatus of the patent in suit and the unsuccessful apparatus of Button were of great practical importance.

The novelty and utility of the invention in controversy have been established, the different elements of the combination patented co-operate to produce a new and useful result which experience has shown to be of great practical importance in the art, and there can be no doubt that the invention was patentable at the date of the patent.

Amount of Recovery.

As no exceptions were taken to the Master's report, the finding of the Court below as to the amount of profits or damages is not open for review here.

The decree of the Circuit Court should be affirmed, with costs.

Saml. A. Duncan
Leonard Curtis

Counsel for Appellee.